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# TIMBER RESOURCES OF THE LOWER SOUTH, 1946

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# TIMBER RESOURCES OF THE LOWER SOUTH, 1946

A reconnaissance of timber resources in eight southern states recently completed by the Southern Forest Experiment Station puts the volume of saw timber as of January 1, 1946, in areas previously covered by the Forest Survey, at approximately 220 billion board feet—a decrease of 14 percent in board-foot volume since the initial Survey was made about a decade ago. Total growing stock, including small trees and pine tops as well as sawlog material, stands at about 78 billion cubic feet—a decrease of less than 1 percent in cubic-foot volume in the decade.

Made as part of the U. S. Forest Service national reappraisal of the forest situation, the timber reconnaissance took the form of actual timber cruises of seven Forest Survey units scattered over the region,1/ and of spot checks and ocular and office estimates in each of the remaining 25 units. For the units cruised (Texas #1, Arkansas #3, Louisiana #1, Mississippi #3, Georgia #1 and #2, and Florida #1), the volume estimates are of a reliability comparable to that of the initial Forest Survey. Estimates for the remaining units are less reliable, though they are believed to be sufficiently accurate to indicate any pronounced trends. The whole series of estimates provides a check of the highlights of the forest situation pending a much-needed resumption of the Forest Survey itself to fill out the details of the local record and carry it forward from year to year.

Sawlog growing stock as a whole declined in each of the eight states (table 1). All but five of the individual Survey units showed a declining trend. In these five units, all within the longleaf-slash-pine belt, total sawlog volume increased by 13 to 25 percent. For the region as a whole, the percentage decline in pine and hardwood sawlog volume was about equal.

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1/ Help in making these cruises was given to the Forest Service by the American Forestry Association and by State forestry agencies in Texas, Arkansas, Louisiana, Mississippi, Georgia, and Florida. This help is gratefully acknowledged.

Table 1.— Estimated sawlog growing stock by state and unit in the lower South, 1946, and change since initial Survey

| State | Forest Survey Unit 1/ | Sawlog growing stock 2/ | | | | | | | Date of initial Survey |
|---|---|---|---|---|---|---|---|---|---|
| | | Pine 3/ | | Hardwood 4/ | | All Species | | | |
| | | In 1946 | Change since initial Survey | In 1946 | Change since initial Survey | In 1946 | | Change since initial Survey | |
| | | | | | | Total | Per acre | | |
| | | Million bd. ft. | Percent | Million bd. ft. | Percent | Million bd. ft. | Board feet | Percent | Year |
| Alabama | 1 | 4,491 | +34 | 1,224 | + 1 | 5,715 | 1,913 | +25 | 1935 |
| | 2 | 4,388 | - 8 | 2,287 | -19 | 6,675 | 2,433 | -12 | 1935 |
| | 3 | 4,948 | -16 | 4,577 | +21 | 9,525 | 2,213 | - 2 | 1935 |
| | 4 | 2,116 | -31 | 1,608 | -17 | 3,724 | 1,373 | -25 | 1935 |
| | 5 | 3,333 | -50 | 1,627 | - 2 | 4,960 | 1,228 | -40 | 1936 |
| | 6 | 1,196 | -23 | 1,566 | -11 | 2,762 | 1,321 | -17 | 1936 |
| | All units | 20,472 | -19 | 12,889 | - 3 | 33,361 | 1,767 | -13 | |
| Arkansas | 1 | 128 | +71 | 4,931 | -20 | 5,059 | 1,851 | -19 | 1935 |
| | 2 | - | - | 2,853 | -31 | 2,853 | 1,867 | -31 | 1935 |
| | 3 | 10,586 | -10 | 5,828 | -23 | 16,414 | 2,688 | -15 | 1936 |
| | 4 | 5,678 | - 1 | 784 | -33 | 6,462 | 1,913 | - 7 | 1936 |
| | All units | 16,392 | - 7 | 14,396 | -24 | 30,788 | 2,240 | -16 | |
| Florida | 1 | 5,282 | -19 | 2,799 | -40 | 8,081 | 1,095 | -28 | 1934 |
| | 2 | 2,911 | -27 | 2,722 | - 6 | 5,633 | 933 | -18 | 1935 |
| | 3 | 2,194 | -15 | 384 | -69 | 2,578 | 408 | -33 | 1936 |
| | 4 | 363 | -61 | 653 | + 3 | 1,016 | 437 | -35 | 1936 |
| | All units | 10,750 | -23 | 6,558 | -30 | 17,308 | 785 | -26 | |
| Georgia | 1 | 10,431 | +22 | 4,740 | - 2 | 15,171 | 2,150 | +13 | 1934 |
| | 2 | 4,331 | + 8 | 1,564 | +43 | 5,895 | 1,952 | +15 | 1934 |
| | 3 | 6,356 | -42 | 3,227 | -29 | 9,583 | 1,717 | -38 | 1936 |
| | 4 | 3,907 | -19 | 1,254 | - 7 | 5,161 | 2,023 | -16 | 1936 |
| | 5 | 3,346 | -13 | 1,387 | -19 | 4,733 | 1,670 | -15 | 1936 |
| | All units | 28,371 | -12 | 12,172 | -10 | 40,543 | 1,927 | -11 | |
| Louisiana | 1 | - | - | 5/ 6,014 | -32 | 6,014 | 2,438 | -32 | 1934 |
| | 2 | 1,400 | +40 | 6,951 | - 7 | 8,351 | 2,236 | - 2 | 1935 |
| | 3 | 4,097 | -20 | 4,783 | + 8 | 8,880 | 1,954 | - 7 | 1935 |
| | 4 | 2,914 | +26 | 1,655 | + 3 | 4,569 | 2,813 | +17 | 1935 |
| | 5 | 4,972 | -29 | 4,109 | -12 | 9,081 | 2,364 | -22 | 1935 |
| | All units | 13,383 | -14 | 23,512 | -13 | 36,895 | 2,276 | -13 | |

Table 1.— Estimated sawlog growing stock by state and unit in the lower South, 1946, and change since initial Survey (Cont'd)

| State | Forest Survey Unit 1/ | Sawlog growing stock 2/ |  |  |  |  |  |  | Date of initial Survey |
|---|---|---|---|---|---|---|---|---|---|
|  |  | Pine 3/ |  | Hardwood 4/ |  | All Species |  |  |  |
|  |  | In 1946 | Change since initial Survey | In 1946 | Change since initial Survey | In 1946 Total | In 1946 Per acre | Change since initial Survey |  |
|  |  | Million bd. ft. | Percent | Million bd. ft. | Percent | Million bd. ft. | Board feet | Percent | Year |
| Mississippi | 1 | - | - | 4,500 | -14 | 4,500 | 2,580 | -14 | 1932 |
|  | 2 | 892 | -64 | 3,883 | + 7 | 4,775 | 1,544 | -22 | 1933 |
|  | 3 | 6,636 | -32 | 6,921 | - 2 | 13,557 | 2,248 | -20 | 1935 |
|  | 4 | 3,912 | + 2 | 2,434 | - 6 | 6,346 | 1,324 | - 1 | 1935 |
|  | 5 | - | - | 1,275 | - 3 | 1,275 | 5,894 | - 3 | 1934 |
|  | All units | 11,440 | -29 | 19,013 | - 4 | 30,453 | 1,918 | -15 |  |
| Oklahoma | 1 | 1,952 | -22 | 760 | -31 | 2,712 | 916 | -25 | 1936 |
|  | All units | 1,952 | -22 | 760 | -31 | 2,712 | 916 | -25 | 1936 |
| Texas | 1 | 16,313 | +31 | 5,799 | -17 | 22,112 | 3,339 | +14 | 1935 |
|  | 2 | 2,870 | -50 | 2,506 | -19 | 5,376 | 1,362 | -39 | 1935 |
|  | All units | 19,183 | + 6 | 8,305 | -18 | 27,488 | 2,601 | - 3 |  |
| All states | All units | 121,943 | -14 | 97,605 | -14 | 219,548 | 1,793 | -14 |  |

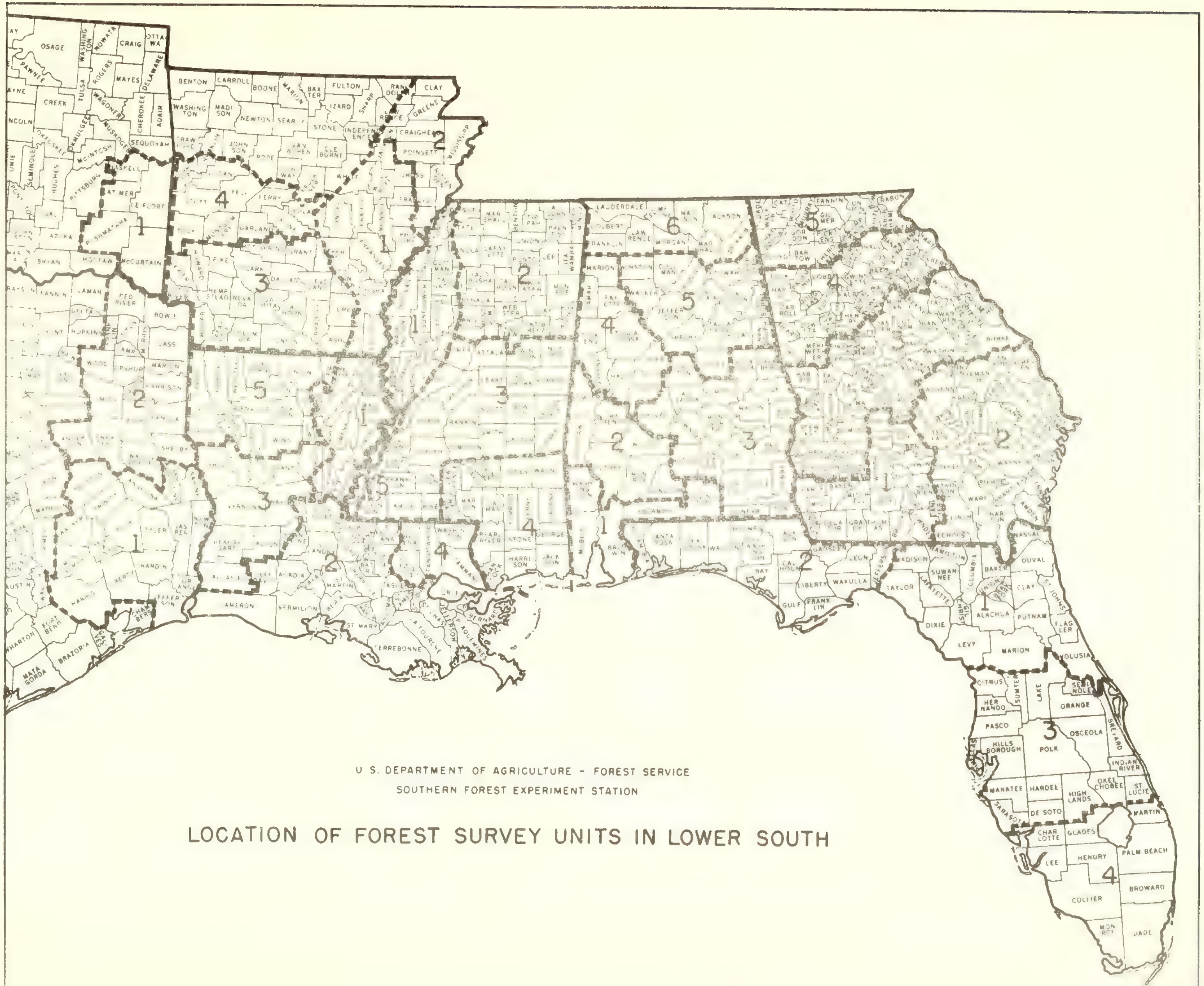
1/ See map.

2/ Cull-free volume, by International 1/4-inch rule, of merchantable sawlogs in softwood trees 9.0 inches and larger in diameter breast high, in hardwoods 13.0 inches and larger, and in cypress 9.0 inches and larger—except in the Mississippi River Delta units, where the lower limit for cypress is 13.0 inches.

3/ Includes negligible amount of other softwoods.

4/ Includes cypress. Excluding cypress, hardwood growing stock in "all units" is as follows: Alabama, 12,680; Arkansas, 14,396; Florida, 4,446; Georgia, 11,602; Louisiana, 22,965; Mississippi, 18,861; Oklahoma, 760; Texas, 8,305; All states, 94,015.

5/ Includes negligible amount of pine.



U. S. DEPARTMENT OF AGRICULTURE - FOREST SERVICE
SOUTHERN FOREST EXPERIMENT STATION

LOCATION OF FOREST SURVEY UNITS IN LOWER SOUTH

Total growing stock decreased during the decade in Oklahoma, Arkansas, Georgia, and Florida; but showed a gain in Texas, Louisiana, Mississippi, and Alabama (table 2). Of the 32 surveyed units, 1 was unchanged, 17 declined, and 14 increased in total growing stock. Most of the gains were made in the longleaf-slash and other southerly units outside of Florida. In the entire region, the total growing stock of pines fell by 4 percent, while hardwood growing stock rose 5 percent.

Some of the highlights of the timber-volume changes in the lower South appear to be these: A rather general decline of volume, particularly in the State of Florida and in the shortleaf pine-hardwood areas in the northern part of the region; a fairly consistent decline of volume in trees of sawlog size and in pine trees of all merchantable sizes; a notable rise in volume of under-sawlog-size hardwoods.

Table 2.— Estimated total growing stock by state and unit in the lower South, 1946, and change since initial Survey

| State | Forest Survey Unit[1] | Total growing stock[2] Pine[3] In 1946 | Pine[3] Change since initial Survey | Hardwood[4] In 1946 | Hardwood[4] Change since initial Survey | All Species In 1946 Total | All Species In 1946 Per acre | All Species Change since initial Survey | Date of initial Survey |
|---|---|---|---|---|---|---|---|---|---|
| | | Million cu. ft. | Percent | Million cu. ft. | Percent | Million cu. ft. | Cubic feet | Percent | Year |
| Alabama | 1 | 1,272 | +35 | 617 | +34 | 1,889 | 632 | +33 | 1935 |
| | 2 | 1,336 | +13 | 900 | + 6 | 2,236 | 815 | +10 | 1935 |
| | 3 | 1,434 | - 8 | 1,591 | +22 | 3,025 | 703 | + 6 | 1935 |
| | 4 | 890 | - 3 | 836 | +17 | 1,726 | 636 | + 6 | 1935 |
| | 5 | 1,485 | -18 | 924 | +11 | 2,409 | 596 | - 9 | 1936 |
| | 6 | 404 | -20 | 834 | + 3 | 1,238 | 592 | - 6 | 1936 |
| | All units | 6,821 | - 2 | 5,702 | +15 | 12,523 | 663 | + 5 | |
| Arkansas | 1 | 32 | +52 | 1,810 | - 4 | 1,842 | 674 | - 4 | 1935 |
| | 2 | - | - | 1,271 | - 7 | 1,271 | 833 | - 7 | 1935 |
| | 3 | 3,200 | - 3 | 2,682 | - 1 | 5,882 | 963 | - 2 | 1936 |
| | 4 | 1,853 | +11 | 537 | -11 | 2,390 | 707 | + 5 | 1936 |
| | All units | 5,085 | + 2 | 6,300 | - 4 | 11,385 | 829 | - 2 | |
| Florida | 1 | 1,830 | -15 | 1,345 | -11 | 3,175 | 430 | -14 | 1934 |
| | 2 | 883 | -28 | 1,105 | +10 | 1,988 | 329 | -11 | 1935 |
| | 3 | 716 | - 7 | 440 | -18 | 1,156 | 183 | -12 | 1936 |
| | 4 | 177 | -35 | 234 | + 4 | 411 | 177 | -17 | 1936 |
| | All units | 3,606 | -19 | 3,124 | - 5 | 6,730 | 305 | -13 | |
| Georgia | 1 | 3,078 | + 9 | 2,088 | +15 | 5,166 | 732 | +11 | 1934 |
| | 2 | 1,239 | 0 | 792 | +95 | 2,031 | 672 | +24 | 1934 |
| | 3 | 2,118 | -25 | 1,609 | - 3 | 3,727 | 668 | -17 | 1936 |
| | 4 | 972 | -25 | 503 | -11 | 1,475 | 578 | -21 | 1936 |
| | 5 | 1,066 | - 1 | 765 | 0 | 1,831 | 646 | 0 | 1936 |
| | All units | 8,473 | - 9 | 5,757 | +10 | 14,230 | 676 | - 2 | |
| Louisiana | 1 | - | - | [5] 1,670 | -20 | 1,670 | 677 | -20 | 1934 |
| | 2 | 376 | +60 | 2,733 | +15 | 3,109 | 832 | +19 | 1935 |
| | 3 | 1,203 | - 9 | 1,557 | +21 | 2,760 | 607 | + 6 | 1935 |
| | 4 | 832 | +45 | 610 | +27 | 1,442 | 888 | +37 | 1935 |
| | 5 | 1,317 | -30 | 1,618 | + 5 | 2,935 | 764 | -15 | 1935 |
| | All units | 3,728 | - 7 | 8,188 | + 5 | 11,916 | 735 | + 1 | |

Table 2.— Estimated total growing stock by state and unit in the lower South, 1946, and change since initial Survey (Cont'd)

| State | Forest Survey Unit 1/ | Total growing stock2/ | | | | | | | Date of initial Survey |
|---|---|---|---|---|---|---|---|---|---|
| | | Pine3/ | | Hardwood4/ | | All Species | | | |
| | | In 1946 | Change since initial Survey | In 1946 | Change since initial Survey | In 1946 | | Change since initial Survey | |
| | | | | | | Total | Per acre | | |
| | | Million cu. ft. | Percent | Million cu. ft. | Percent | Million cu. ft. | Cubic feet | Percent | Year |
| Mississippi | 1 | - | - | 1,037 | -17 | 1,037 | 595 | -17 | 1932 |
| | 2 | 429 | -47 | 1,426 | + 5 | 1,855 | 600 | -15 | 1933 |
| | 3 | 1,966 | -19 | 2,749 | +26 | 4,715 | 782 | + 2 | 1935 |
| | 4 | 1,210 | +14 | 1,373 | +38 | 2,583 | 539 | +25 | 1935 |
| | 5 | - | - | 317 | +16 | 317 | 1,466 | +16 | 1934 |
| | All units | 3,605 | -16 | 6,902 | +14 | 10,507 | 662 | + 1 | |
| Oklahoma | 1 | 585 | - 7 | 460 | -19 | 1,045 | 353 | -13 | 1936 |
| | All units | 585 | - 7 | 460 | -19 | 1,045 | 353 | -13 | 1936 |
| Texas | 1 | 4,657 | +37 | 2,305 | + 3 | 6,962 | 1,051 | +24 | 1935 |
| | 2 | 1,412 | -19 | 1,185 | - 1 | 2,597 | 658 | -12 | 1935 |
| | All units | 6,069 | +18 | 3,490 | + 2 | 9,559 | 904 | +12 | |
| All states | All units | 37,972 | - 4 | 39,923 | + 5 | 77,895 | 636 | Negl. | |

1/ See map.

2/ Cull-free cubic volume, inside bark, of all sawlog growing stock (see table 1, footnote 2); all thrifty, well-formed trees of less than sawlog size but at least 5.0 inches in diameter breast high; and the upper stems of sawlog-size softwoods, above merchantable sawlogs; but excluding hardwood tops. Including hardwood tops, total growing stock of all species in "all units" is as follows, in million cubic feet: Alabama, 13,620; Arkansas, 12,625; Florida, 7,239; Georgia, 15,237; Louisiana, 13,933; Mississippi, 12,131; Oklahoma, 1,110; Texas, 10,266; All states, 86,161.

3/ Includes negligible amount of other softwoods.

4/ Includes cypress.

5/ Includes negligible amount of pine.

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# PULPWOOD PRODUCTION AND USE
## IN SOUTHERN FOREST SURVEY TERRITORY, 1946

By
William S. Stover

A PROGRESS REPORT OF THE SOUTHERN FOREST SURVEY
William A. Duerr, In Charge

SOUTHERN FOREST EXPERIMENT STATION

Chas. A. Connaughton, Director

New Orleans, La.

# THE SOUTHERN FOREST SURVEY

The Southern Forest Survey, an activity of the Southern Forest Experiment Station, covers the seven States of the Station's territory--Alabama, Arkansas, Louisiana, Mississippi, Oklahoma, Tennessee, and Texas. This Survey is a part of the nation-wide Forest Survey authorized by the McSweeney-McNary Forest Research Act of 1928. Its five-fold purpose is (1) to take inventory of the supply of standing timber and other forest products; (2) to ascertain the rate at which this supply is being increased through growth; (3) to determine the rate at which this supply is being diminished through industrial and local use, and by fire, insects, disease, and other agencies; (4) to estimate the present requirements and the probable future trend in the requirements for timber and other forest products; and (5) to correlate these findings with existing and anticipated economic conditions, in order that policies may be formulated for the effective use of lands suitable for forest production.

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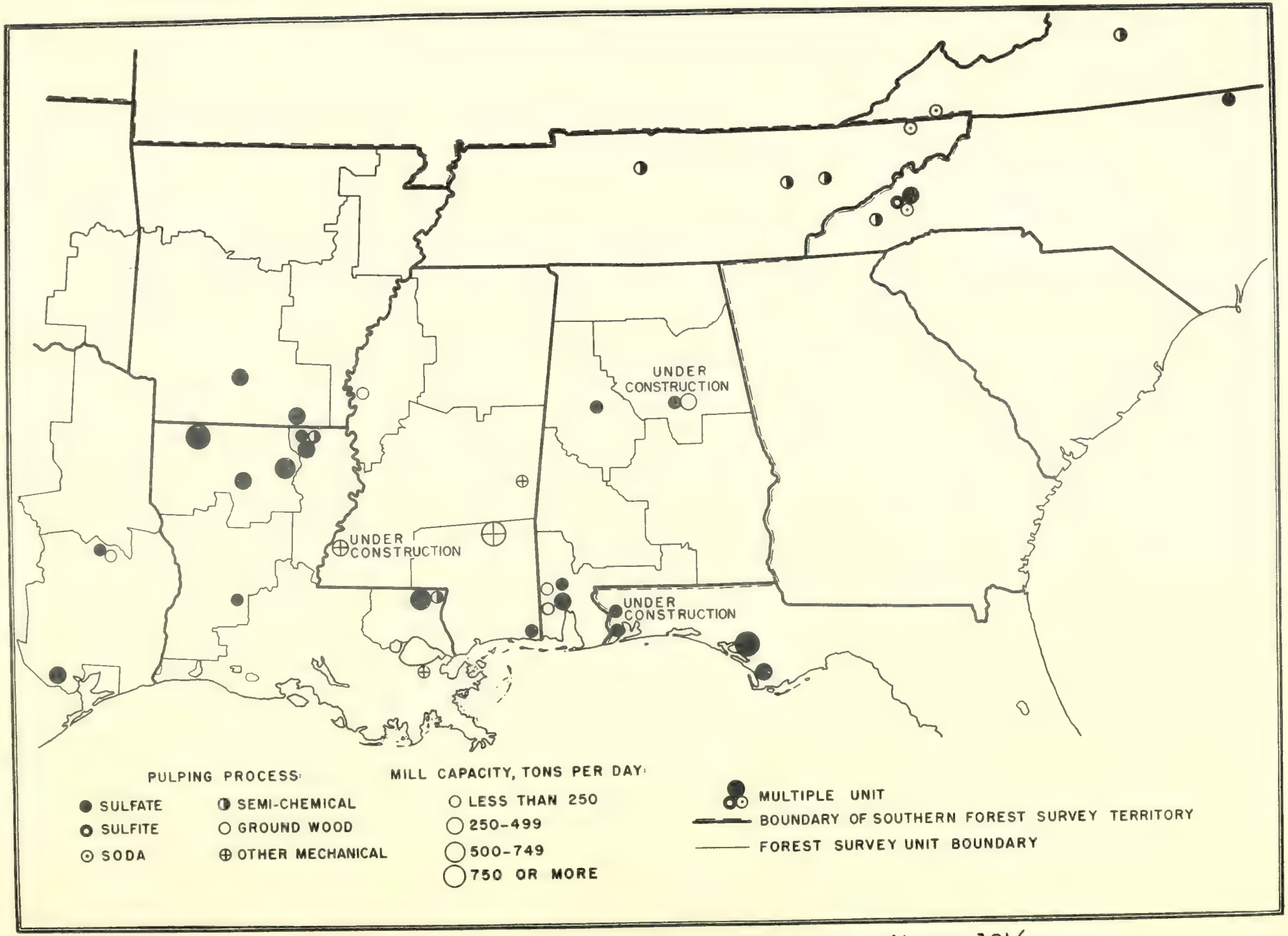

Figure 1.--Pulp mills drawing wood from Southern Forest Survey territory, 1946.

# PULPWOOD PRODUCTION AND USE IN SOUTHERN FOREST SURVEY TERRITORY, 1946

By William S. Stover
Southern Forest Experiment Station

The great expansion of the wood pulp and paper industry in the South is one of the major developments in the United States forest scene in recent years. Since 1936, when the current expansion started, wood-pulping capacity in the 12 southern States from Virginia to Texas has nearly quadrupled--the result of new mill construction and expansion of existing mills. About half of United States wood-pulping capacity is now in the South. The annual value of the finished products of the industry in the South is three-quarters of a billion dollars.

In Southern Forest Survey territory--the States of Alabama, Arkansas, Louisiana, Mississippi, Oklahoma, Tennessee, and Texas--pulping capacity has almost tripled since 1936. The expansion still continues, with an active search for new mill locations.

## Pulp Mills and Their Capacity

In 1946, 24 wood-pulp mill units in Southern Forest Survey territory and 8 outside units were drawing wood from the territory. Additional units are under construction at Childersburg, Alabama, at Natchez, Mississippi, in the territory; and at Pensacola, Florida, just outside (figure 1). (A unit consists of all mills operated by one company at one location.)

Pulping capacity of the 26 mill units operating or under construction in the territory will total 8,396 tons daily, of which 68 percent will be sulfate capacity, 26 percent ground wood or other mechanical, 4 percent semichemical, and 2 percent soda (table 1, p. 6). In the entire South, capacity of the 50 operating mills and the 6 under construction will total more than 19,000 tons daily. Of this, 79 percent will be sulfate capacity, 13 percent ground wood or other mechanical, and 8 percent semichemical, soda, and sulfite.

Sulfate pulp, unbleached, is used largely for manufacture of bags, wrapping paper, and container board, and also for cartons and specialties. Bleached sulfate pulp goes to these uses and also into coated papers and cleansing tissues. Ground-wood and other mechanical pulps are used largely in insulating boards and building papers; but ground-wood pulp made at Lufkin, Texas, is manufactured into newsprint, and the mill under construction at Childersburg will also make newsprint. Semichemical pulp is used largely for corrugating paper. Soda pulp is used principally for book, tablet, and coated papers, but goes also into container board and specialties.

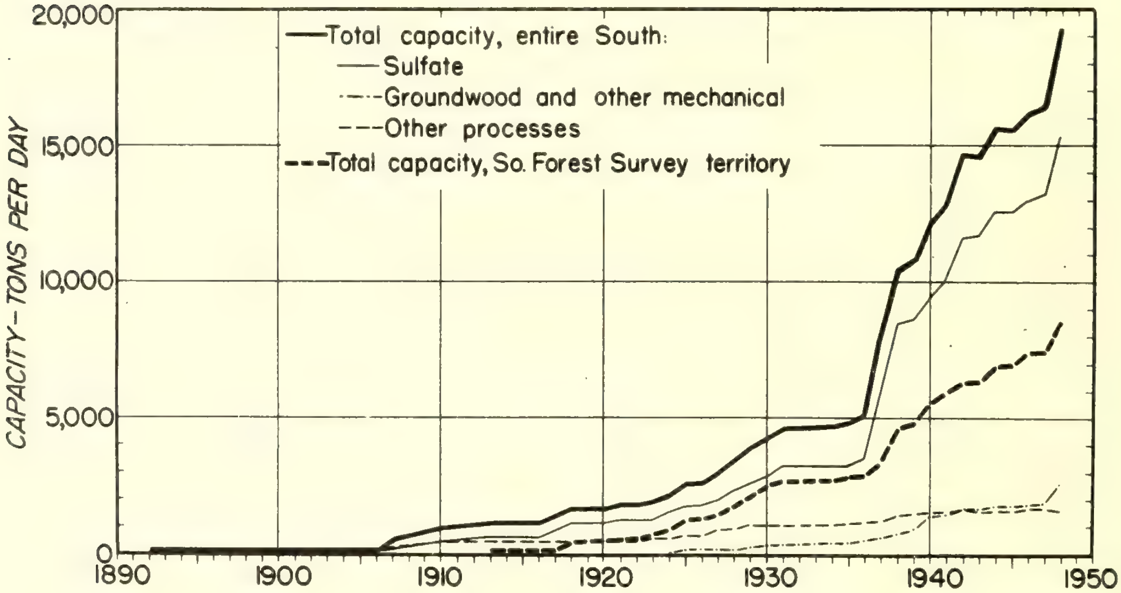

Figure 2.--Pulp-mill capacity in the South, 1892-1948.

In the entire South, 82 percent of the expansion since 1936 has been in sulfate capacity, 15 percent in ground wood and other mechanical, and 3 percent in semichemical, soda; and sulfite (figure 2). In Southern Forest Survey territory, the proportions are 65, 32, and 3 percent, respectively. (See table 2 for the basic mill-capacity data.)

Most of the expansion in the South has pointed toward the use of pine pulpwood. Much of the current interest in further expansion also appears to involve principally the use of pine. There exists, however, a considerable interest in the pulping of hardwoods, which make up approximately half of the region's total standing-timber volume. But, as yet, use of hardwood is not on a scale commensurate with its potentiality.

## Pulpwood Production

Pulpwood production in 1946 in Southern Forest Survey territory totaled 4,123,549 standard cords (including bark), of which 88 percent was pine and 12 percent hardwood. Production in 1936 was 1,566,000 cords, and since has risen rather steadily (figure 3). The largest increase occurred in Mississippi (table 3). Pine and hardwood pulpwood production by county in 1946 is shown in tables 4 through 10.

The heaviest concentration of pulpwood output in the territory in 1946 was in southwestern Alabama. Other areas of concentration were central and southern Mississippi and northwest Louisiana (figure 4). In relation to the quantity of standing pine timber, the heaviest production of pine pulpwood was in central and southern Mississippi and northwest Louisiana. Here more than 20 cords were produced per 1,000 cords of standing timber: roughly four-tenths of the annual net growth was taken for pulpwood alone (figure 5).

In broad figures, the pulpwood produced in Southern Forest Survey territory in 1946 had a value of about $54,000,000, delivered at the mill. Roughly, $8,000,000 of this went to timberland owners for their stumpage, $10,000,000 went to meet transportation costs, and $36,000,000 was for direct production costs, including labor.

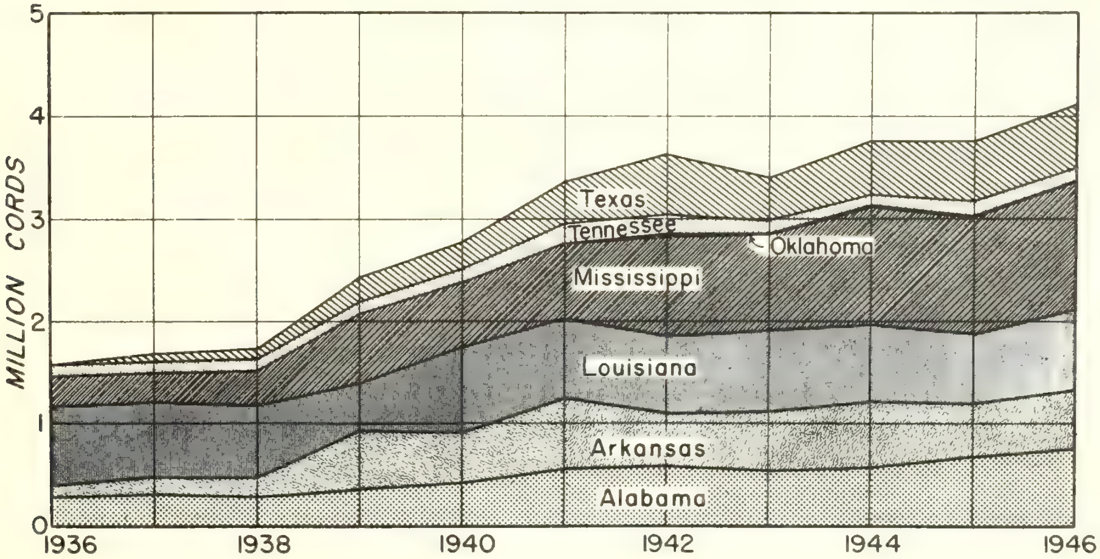

Figure 3.--Pulpwood production in Southern Forest Survey territory, 1936-1946.

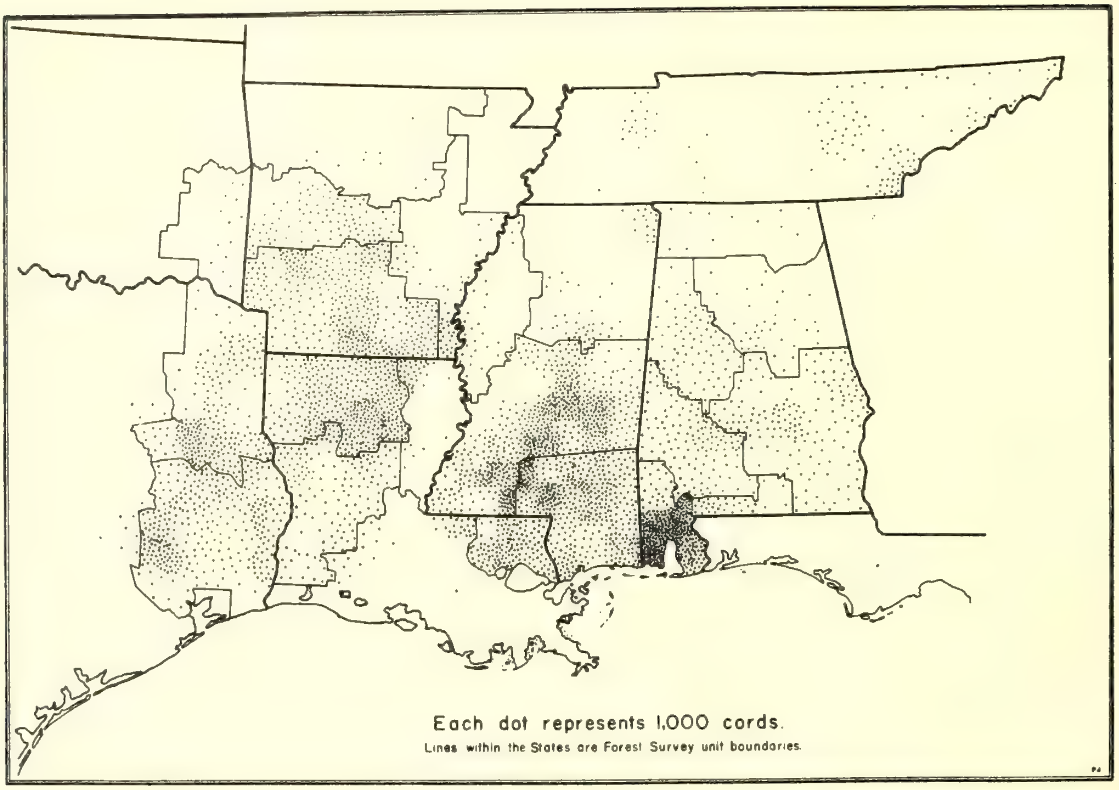
Each dot represents 1,000 cords.
Lines within the States are Forest Survey unit boundaries.

Figure 4.--Geographic distribution of pulpwood production in Southern Forest Survey territory, 1946.

## Pulpwood Movement

Slightly more pulpwood was produced in Southern Forest Survey territory in 1946 than was used by mills in the territory, there being a net balance of pulpwood shipments out of the territory (table 11). The greater part of the wood was produced within an airline radius of 150 miles of the mills to which it was delivered. Analysis of pulpwood movement to the 10 mill units for which data are available shows the following:

| Distance from mill (miles) | Cumulative percent of wood obtained | |
|---|---|---|
| | Average | Range |
| 50 | 41 | 16 - 71 |
| 100 | 73 | 33 - 97 |
| 150 | 92 | 85 - 100 |
| 200 | 99 | 96 - 100 |
| 500 | 100 | 100 |

The maximum airline distance of haul was 500 miles. One-third of the wood produced in the territory moved in interstate commerce.

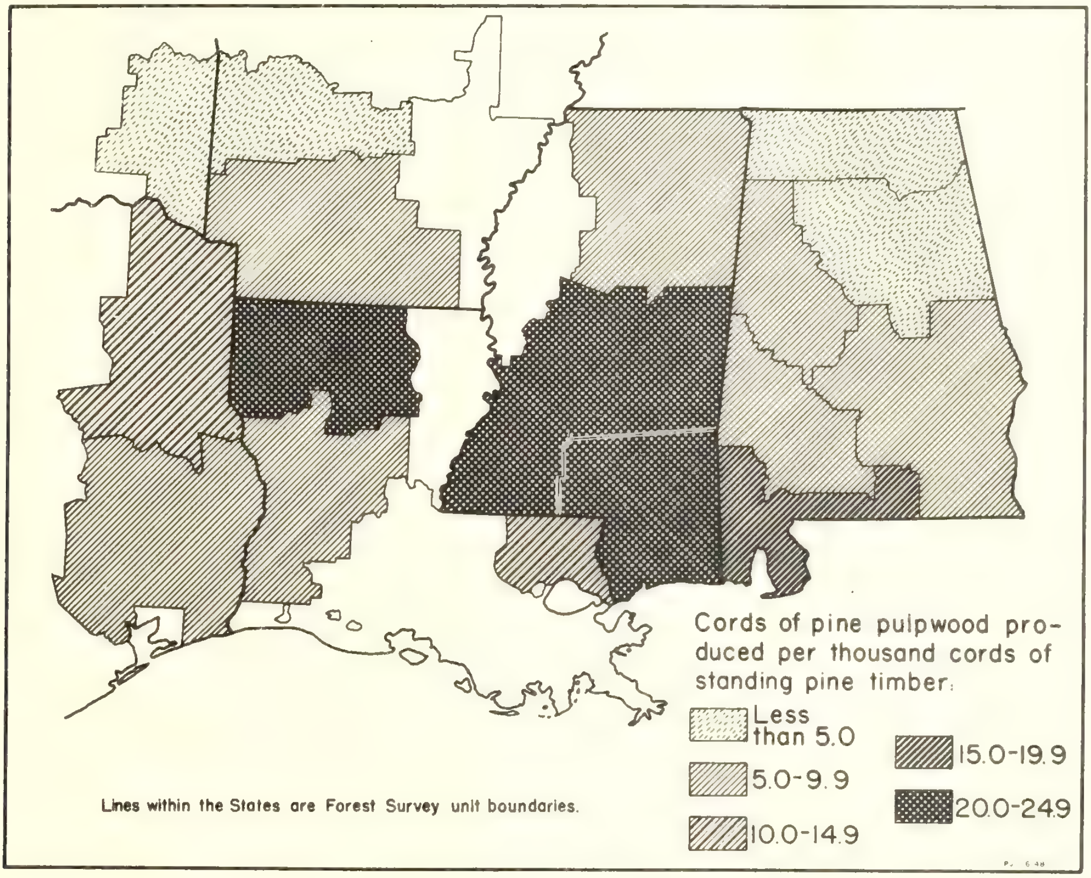
Cords of pine pulpwood produced per thousand cords of standing pine timber:
Less than 5.0
5.0-9.9
10.0-14.9
15.0-19.9
20.0-24.9
Lines within the States are Forest Survey unit boundaries.

Figure 5.--Rate of pine pulpwood production in selected Southern Forest Survey units, 1946.

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Individual mill-drawing territories varied considerably, according to the timber supply and ownership, competition with other users for raw material, transportation facilities, and wood-procurement policies. The bulk of the wood moved by common-carrier railroad and truck; but there was some barge movement along the Gulf Coast and on the Mississippi, Tombigbee, and Warrior Rivers.

## Source of Data

Data on 1946 pulpwood production in this release are based on reports from 30 of the 32 units drawing wood from Southern Forest Survey territory, on estimates for two units, and on State severance-tax data from Alabama, Louisiana, and Mississippi. County data are based on county or shipping-point information furnished by 24 units, on county severance-tax information, and on estimates for two units. The county data are only approximate, but totals for groups of counties should have little error.

Pulpwood data for earlier years are from estimates by the Division of State and Private Forestry, Southern Region, U. S. Forest Service, and by the Southern Forest Experiment Station.

Data on pulp mill capacity are for the most part from Lockwood's Directory of the Paper and Allied Trades.

Table 1.--Pulp mills and pulping capacity in Southern Forest Survey territory, 1946

| State | Units 1/ | Sulfate | Ground wood and other mechanical | Semi-chemical | Soda | All processes |
|---|---|---|---|---|---|---|
| | Number | - - - - - - | - Tons daily | - - - | - - - | - - - |
| Alabama | 5 | 920 | 186 | ... | ... | 1,106 |
| Arkansas | 2 | 635 | ... | ... | ... | 635 |
| Louisiana | 7 | 3,023 | 120 | 140 | ... | 3,283 |
| Mississippi | 4 | 240 | 1,108 | ... | ... | 1,348 |
| Oklahoma | .. | ... | ... | ... | ... | ... |
| Tennessee | 4 | ... | ... | 210 | 140 | 350 |
| Texas | 2 | 525 | 140 | ... | ... | 665 |
| Expansion and new construction | 2 | 405 | 604 | ... | ... | 1,009 |
| Total | 26 | 5,748 | 2,158 | 350 | 140 | 8,396 |
| Percent | | 68 | 26 | 4 | 2 | 100 |

1/ A unit consists of all mills operated by one company at one location.

Table 2.--Comparison of 1946 and 1936 pulp-mill capacities

| Item | Sulfate | Ground wood and other mechanical | Semi-chemical | Soda | Sulfite | All processes |
|---|---|---|---|---|---|---|
| | - - - - - - - | Tons daily | - - - - - | | | |
| Southern Forest Survey territory: | | | | | | |
| 1936 | 2,164 | 415 | 200 | 100 | ... | 2,879 |
| 1946 | | | | | | |
| Operating | 5,343 | 1,554 | 350 | 140 | ... | 7,387 |
| Expansion and new construction | 405 | 604 | ... | ... | ... | 1,009 |
| Total 1946 | 5,748 | 2,158 | 350 | 140 | ... | 8,396 |
| South (12 States from Virginia to Texas): | | | | | | |
| 1936 | 3,459 | 460 | 503 | 390 | 250 | 5,062 |
| 1946 | | | | | | |
| Operating | 12,738 | 1,799 | 655 | 392 | 468 | 16,062 |
| Expansion and new construction | 2,210 | 759 | 175 | ... | -150 | 2,994 |
| Total 1946 | 14,948 | 2,558 | 840 | 392 | 318 | 19,056 |

Table 3.--Pulpwood production in Southern Forest Survey territory, 1936-1946

| State | 1936 | 1938 | 1940 | 1942 | 1944 | 1946 |
|---|---|---|---|---|---|---|
| | - - - | - - - | Thousand cords | - | - - - | - - - |
| Alabama | 283 | 284 | 423 | 582 | 569 | 756 |
| Arkansas | 112 | 192 | 486 | 511 | 642 | 577 |
| Louisiana | 779 | 697 | 838 | 764 | 749 | 787 |
| Mississippi | 282 | 342 | 630 | 964 | 1,152 | 1,238 |
| Oklahoma | ... | ... | ... | 31 | 10 | 13 |
| Tennessee | 1/110 | 1/110 | 131 | 188 | 113 | 136 |
| Texas | ... | 99 | 262 | 586 | 525 | 616 |
| All States | 1,566 | 1,724 | 2,770 | 3,626 | 3,760 | 4,123 |

1/ Estimated.

Table 4.--Pulpwood production in Alabama, 1946

| County | Pine | Hardwood | Total |
|---|---|---|---|
| | - - - - - - - | Standard cords | - - - - - - |
| Autauga | 1,303 | 23 | 1,326 |
| Baldwin | 144,517 | 111 | 144,628 |
| Barbour | 4,674 | ... | 4,674 |
| Bibb | 7,960 | 461 | 8,421 |
| Blount | 2,871 | 76 | 2,947 |
| Bullock | 4,598 | ... | 4,598 |
| Butler | 3,142 | 147 | 3,289 |
| Calhoun | 418 | 23 | 441 |
| Chambers | 8,117 | ... | 8.117 |
| Cherokee | 217 | ... | 217 |
| Chilton | 5,218 | 2,042 | 7,260 |
| Choctaw | 13,630 | ... | 13,630 |
| Clarke | 16,703 | 1,569 | 18,272 |
| Clay | 4,801 | ... | 4,801 |
| Cleburne | 68 | ... | 68 |
| Coffee | 6,490 | ... | 6,490 |
| Colbert | 252 | ... | 252 |
| Conecuh | 5,617 | 171 | 5,788 |
| Coosa | 2,477 | 21 | 2,498 |
| Covington | 4,194 | 32 | 4,226 |
| Crenshaw | 3,637 | ... | 3,637 |
| Cullman | ... | ... | ... |
| Dale | 1,649 | ... | 1,649 |
| Dallas | 16,262 | ... | 16,262 |
| DeKalb | 127 | ... | 127 |
| Elmore | 1,142 | ... | 1,142 |
| Escambia | 27,590 | 876 | 28,466 |
| Etowah | 264 | ... | 264 |
| Fayette | 8,069 | 1,502 | 9,571 |
| Franklin | 2,237 | 45 | 2,282 |
| Geneva | 6,375 | 59 | 6,434 |
| Greene | 11,100 | 860 | 11,960 |
| Hale | 4,658 | 373 | 5,031 |
| Henry | 5,838 | ... | 5,838 |
| Houston | 1,683 | ... | 1,683 |
| Jackson | ... | 3,560 | 3,560 |
| Jefferson | 1,925 | 51 | 1,976 |
| Lamar | 1,755 | 923 | 2,678 |
| Lauderdale | 2,979 | ... | 2,979 |
| Lawrence | 1,298 | 120 | 1,418 |
| Lee | 16,349 | ... | 16,349 |
| Limestone | ... | 572 | 572 |
| Lowndes | 15,366 | 347 | 15,713 |

Table 4.--Pulpwood production in Alabama, 1946 (Continued)

| County | Pine | Hardwood | Total |
|---|---|---|---|
| | | Standard cords | |
| Macon | 4,129 | ... | 4,129 |
| Madison | ... | 1,001 | 1,001 |
| Marengo | 29,642 | 451 | 30,093 |
| Marion | 1,488 | 40 | 1,528 |
| Marshall | 36 | ... | 36 |
| Mobile | 122,470 | 1,207 | 123,677 |
| Monroe | 18,056 | 833 | 18,889 |
| Montgomery | 28,574 | ... | 28,574 |
| Morgan | 50 | ... | 50 |
| Perry | 7,424 | 2,162 | 9 586 |
| Pickens | 9,080 | 235 | 9,315 |
| Pike | 9,062 | ... | 9,062 |
| Randolph | 70 | ... | 70 |
| Russell | 10,612 | ... | 10,612 |
| Saint Clair | 3,180 | 84 | 3,264 |
| Shelby | 15,028 | 381 | 15,409 |
| Sumter | 13,122 | 246 | 13,368 |
| Talladega | 1,462 | 39 | 1,501 |
| Tallapoosa | 6,783 | ... | 6,783 |
| Tuscaloosa | 23,653 | 873 | 24,526 |
| Walker | 586 | 22 | 608 |
| Washington | 20,898 | 3,619 | 24,517 |
| Wilcox | 37,588 | 62 | 37,650 |
| Winston | 601 | 23 | 624 |
| Total | 731,164 | 25,242 | 756,406 |

Table 5.--Pulpwood production in Arkansas, 1946

| County | Pine | Hardwood | Total |
|---|---|---|---|
| | - - - - - - | Standard cords | - - - - - - |
| Arkansas | ... | ... | ... |
| Ashley | 34,506 | 4,381 | 38,887 |
| Baxter | 111 | ... | 111 |
| Benton | ... | ... | ... |
| Boone | ... | ... | ... |
| Bradley | 9,654 | 136 | 9,790 |
| Calhoun | 27,912 | ... | 27,912 |
| Carroll | ... | ... | ... |
| Chicot | 43 | 20,379 | 20,422 |
| Clark | 26,988 | 1,059 | 28,047 |
| Clay | ... | ... | ... |
| Cleburne | 15 | ... | 15 |
| Cleveland | 2,314 | ... | 2,314 |
| Columbia | 12,578 | 200 | 12,778 |
| Conway | ... | ... | ... |
| Craighead | ... | ... | ... |
| Crawford | ... | ... | ... |
| Crittenden | ... | ... | ... |
| Cross | ... | ... | ... |
| Dallas | 20,297 | 605 | 20,902 |
| Desha | ... | 8,814 | 8,814 |
| Drew | 22,215 | 7,927 | 30,142 |
| Faulkner | 252 | ... | 252 |
| Franklin | ... | ... | ... |
| Fulton | ... | ... | ... |
| Garland | 8,700 | 51 | 8,751 |
| Grant | 28,556 | 85 | 28,641 |
| Greene | ... | ... | ... |
| Hempstead | 13,846 | 900 | 14,746 |
| Hot Spring | 13,738 | ... | 13,738 |
| Howard | 4,648 | 400 | 5,048 |
| Independence | ... | ... | ... |
| Izard | 684 | ... | 684 |
| Jackson | ... | ... | ... |
| Jefferson | 11,673 | ... | 11,673 |
| Johnson | 1,535 | ... | 1,535 |
| Lafayette | 8,466 | ... | 8,466 |
| Lawrence | ... | ... | ... |
| Lee | ... | 2,373 | 2,373 |
| Lincoln | 873 | 235 | 1,108 |
| Little River | 13,148 | 550 | 13,698 |
| Logan | 1,175 | ... | 1,175 |
| Lonoke | 74 | ... | 74 |

Table 5.--Pulpwood production in Arkansas, 1946 (Continued)

| County | Pine | Hardwood | Total |
|---|---|---|---|
| | - - - - - | Standard cords | - - - - - |
| Madison | ... | ... | ... |
| Marion | ... | ... | ... |
| Miller | 5,652 | 900 | 6,552 |
| Mississippi | ... | ... | ... |
| Monroe | 46 | 51 | 97 |
| Montgomery | 5,410 | 2,080 | 7,490 |
| Nevada | 5,495 | 1,941 | 7,436 |
| Newton | ... | ... | ... |
| Ouachita | 31,367 | 171 | 31,538 |
| Perry | 11,711 | 138 | 11,849 |
| Phillips | ... | 2,373 | 2,373 |
| Pike | 35,344 | 3,100 | 38,444 |
| Poinsett | ... | ... | ... |
| Polk | 16,425 | ... | 16,425 |
| Pope | 1,278 | ... | 1,278 |
| Prairie | ... | ... | ... |
| Pulaski | 7,278 | 656 | 7,934 |
| Randolph | ... | ... | ... |
| Saint Francis | ... | ... | ... |
| Saline | 21,789 | 915 | 22,704 |
| Scott | 4,562 | ... | 4,562 |
| Searcy | 360 | ... | 360 |
| Sebastian | 209 | ... | 209 |
| Sevier | 18,942 | ... | 18,942 |
| Sharp | ... | ... | ... |
| Stone | ... | ... | ... |
| Union | 60,056 | 5,097 | 65,153 |
| Van Buren | 3,638 | ... | 3,638 |
| Washington | ... | ... | ... |
| White | 2,351 | ... | 2,351 |
| Woodruff | ... | ... | ... |
| Yell | 15,616 | 100 | 15,716 |
| Total | 511,530 | 65,617 | 577,147 |

Table 6.--Pulpwood production in Louisiana, 1946

| Parish | Pine | Hardwood | Total |
|---|---|---|---|
| | - - - - - - | Standard cords | - - - - - - |
| Acadia | 1,969 | 29 | 1,998 |
| Allen | 15,392 | 187 | 15,579 |
| Ascension | ... | ... | ... |
| Assumption | ... | 784 | 784 |
| Avoyelles | ... | ... | ... |
| Beauregard | 3,339 | ... | 3,339 |
| Bienville | 36,667 | 1,244 | 37,911 |
| Bossier | 22,737 | 400 | 23,137 |
| Caddo | 6,728 | ... | 6,728 |
| Calcasieu | 16,407 | ... | 16,407 |
| Caldwell | 39,360 | 184 | 39,544 |
| Cameron | ... | ... | ... |
| Catahoula | 5,424 | 30 | 5,454 |
| Claiborne | 26,909 | 247 | 27,156 |
| Concordia | ... | 360 | 360 |
| De Soto | 17,985 | 17 | 18,002 |
| East Baton Rouge | ... | ... | ... |
| East Carroll | ... | 514 | 514 |
| East Feliciana | 18,119 | 186 | 18,305 |
| Evangeline | 5,450 | 22 | 5,472 |
| Franklin | ... | ... | ... |
| Grant | 19,915 | ... | 19,915 |
| Iberia | ... | ... | ... |
| Iberville | ... | ... | ... |
| Jackson | 51,346 | 325 | 51,671 |
| Jefferson | ... | 311 | 311 |
| Jefferson Davis | 4,673 | 58 | 4,731 |
| Lafayette | ... | ... | ... |
| Lafourche | ... | ... | ... |
| La Salle | 9,354 | 22 | 9,376 |
| Lincoln | 16,230 | 852 | 17,082 |
| Livingston | 30,019 | 672 | 30,691 |
| Madison | ... | 363 | 363 |
| Morehouse | 27,685 | 3,316 | 31,001 |
| Natchitoches | 25,717 | 247 | 25,964 |
| Orleans | ... | ... | ... |
| Ouachita | 39,443 | ... | 39,443 |
| Plaquemines | ... | ... | ... |
| Pointe Coupee | ... | ... | ... |
| Rapides | 21,125 | 1,540 | 22,665 |
| Red River | 22,992 | ... | 22,992 |
| Richland | ... | ... | ... |
| Sabine | 31,486 | 85 | 31,571 |

Table 6.--Pulpwood production in Louisiana, 1946 (Continued)

| Parish | Pine | Hardwood | Total |
|---|---|---|---|
| | - - - - Standard cords - - - - - - | | |
| Saint Bernard | ... | ... | ... |
| Saint Charles | ... | ... | ... |
| Saint Helena | 4,068 | 84 | 4,152 |
| Saint James | ... | ... | ... |
| Saint John the Baptist | ... | ... | ... |
| Saint Landry | 1,457 | ... | 1,457 |
| Saint Martin | ... | ... | ... |
| Saint Mary | ... | ... | ... |
| Saint Tammany | 36,600 | 809 | 37,409 |
| Tangipahoa | 46,210 | 1,021 | 47,231 |
| Tensas | ... | 186 | 186 |
| Terrebonne | ... | ... | ... |
| Union | 39,888 | 4,565 | 44,453 |
| Vermilion | ... | ... | ... |
| Vernon | 14,126 | ... | 14,126 |
| Washington | 21,022 | 452 | 21,474 |
| Webster | 29,020 | 500 | 29,520 |
| West Baton Rouge | ... | ... | ... |
| West Carroll | ... | 21 | 21 |
| West Feliciana | 4,651 | 816 | 5,467 |
| Winn | 52,550 | 452 | 53,002 |
| Total | 766,063 | 20,901 | 786,964 |

Table 7.--Pulpwood production in Mississippi, 1946

| County | Pine | Hardwood | Total |
|---|---|---|---|
| | - - - - - - Standard cords - - - - - - | | |
| Adams | 4,303 | 1,042 | 5,345 |
| Alcorn | 318 | 2,863 | 3,181 |
| Amite | 8,959 | 711 | 9,670 |
| Attala | 22,821 | 4,866 | 27,687 |
| Benton | ... | ... | ... |
| Bolivar | ... | 4,809 | 4,809 |
| Calhoun | 484 | 109 | 593 |
| Carroll | 618 | 71 | 689 |
| Chickasaw | 2,293 | ... | 2,293 |
| Choctaw | 12,030 | 3,160 | 15,190 |
| Claiborne | 7,371 | 1,913 | 9,284 |
| Clarke | 16,325 | 2,500 | 18,825 |
| Clay | 247 | 227 | 474 |
| Coahoma | ... | 16 | 16 |
| Copiah | 28,835 | 6,482 | 35,317 |
| Covington | 17,248 | 6,939 | 24,187 |
| De Soto | ... | ... | ... |
| Forrest | 25,672 | 6,337 | 32,009 |
| Franklin | 28,431 | 7,145 | 35,576 |
| George | 15,717 | 2,439 | 18,156 |
| Greene | 19,677 | 3,069 | 22,746 |
| Grenada | 19 | 32 | 51 |
| Hancock | 27,611 | ... | 27,611 |
| Harrison | 14,457 | 63 | 14,520 |
| Hinds | 15,047 | 3,602 | 18,649 |
| Holmes | 13,235 | 2,993 | 16,228 |
| Humphreys | ... | 2,804 | 2,804 |
| Issaquena | ... | 2,726 | 2,726 |
| Itawamba | ... | ... | ... |
| Jackson | 45,304 | ... | 45,304 |
| Jasper | 36,457 | 9,335 | 45,792 |
| Jefferson | 12,097 | 2,677 | 14,774 |
| Jefferson Davis | 12,671 | 2,516 | 15,187 |
| Jones | 25,196 | 9,106 | 34,302 |
| Kemper | 13,515 | 361 | 13,876 |
| Lafayette | ... | ... | ... |
| Lamar | 24,834 | 4,006 | 28,840 |
| Lauderdale | 21,320 | 3,700 | 25,020 |
| Lawrence | 28,312 | 7,823 | 36,135 |
| Leake | 31,189 | 5,029 | 36,218 |
| Lee | ... | ... | ... |
| Leflore | ... | 127 | 127 |
| Lincoln | 33,132 | 13,021 | 46,153 |

Table 7.--Pulpwood production in Mississippi, 1946 (Continued)

| County | Pine | Hardwood | Total |
|---|---|---|---|
| | - - - - - | Standard cords | - - - - |
| Lowndes | 110 | ... | 110 |
| Madison | 3,580 | 393 | 3,973 |
| Marion | 42,070 | 9,307 | 51,377 |
| Marshall | 69 | ... | 69 |
| Monroe | 63 | ... | 63 |
| Montgomery | 5,467 | 1,077 | 6,544 |
| Neshoba | 10,290 | 1,231 | 11,521 |
| Newton | 36,292 | 12,038 | 48,330 |
| Noxubee | 2,485 | 492 | 2,977 |
| Oktibbeha | 4,375 | 1,884 | 6,259 |
| Panola | 54 | 158 | 212 |
| Pearl River | 19,831 | 4,456 | 24,287 |
| Perry | 33,107 | 13,077 | 46,184 |
| Pike | 27,734 | 7,949 | 35,683 |
| Pontotoc | ... | ... | ... |
| Prentiss | 233 | 926 | 1,159 |
| Quitman | ... | 303 | 303 |
| Rankin | 54,290 | 10,339 | 64,629 |
| Scott | 42,652 | 12,432 | 55,084 |
| Sharkey | ... | 469 | 469 |
| Simpson | 42,594 | 12,964 | 55,558 |
| Smith | 12,276 | 3,691 | 15,967 |
| Stone | 11,014 | 602 | 11,616 |
| Sunflower | ... | 10 | 10 |
| Tallahatchie | ... | ... | ... |
| Tate | ... | ... | ... |
| Tippah | ... | ... | ... |
| Tishomingo | 3,936 | 8,361 | 12,297 |
| Tunica | ... | 2,669 | 2,669 |
| Union | 30 | ... | 30 |
| Walthall | 14,240 | 3,739 | 17,979 |
| Warren | 12 | 324 | 336 |
| Washington | ... | 11,276 | 11,276 |
| Wayne | 19,816 | 5,304 | 25,120 |
| Webster | 2,445 | 459 | 2,904 |
| Wilkinson | 18,433 | 2,305 | 20,738 |
| Winston | 6,667 | 392 | 7,059 |
| Yalobusha | 3,934 | 971 | 4,905 |
| Yazoo | 64 | 34 | 98 |
| Total | 983,908 | 254,251 | 1,238,159 |

Table 8.--Pulpwood production in Oklahoma, 1946

| County [1] | Pine | Hardwood | Total |
|---|---|---|---|
| | - - - - Standard cords - - - - | | |
| Choctaw | 14 | ... | 14 |
| Latimer | 145 | ... | 145 |
| Le Flore | 7,425 | ... | 7,425 |
| McCurtain | 5,574 | ... | 5,574 |
| Pushmataha | 183 | ... | 183 |
| Total | 13,341 | ... | 13,341 |

[1] Counties with no pulpwood production are omitted.

Table 9.--Pulpwood production in Tennessee, 1946

| County | Pine | Hardwood | Total |
|---|---|---|---|
| | - - - - | - Standard cords - | - - - - |
| Anderson | 12 | ... | 12 |
| Bedford | ... | ... | ... |
| Benton | ... | 2,272 | 2,272 |
| Bledsoe | 275 | 3,578 | 3,853 |
| Blount | 71 | ... | 71 |
| Bradley | 628 | 17 | 645 |
| Campbell | ... | 1,076 | 1,076 |
| Cannon | 16 | ... | 16 |
| Carroll | ... | 9,818 | 9,818 |
| Carter | 34 | 20 | 54 |
| Cheatham | ... | ... | ... |
| Chester | ... | ... | ... |
| Claiborne | 84 | 3,157 | 3,241 |
| Clay | ... | ... | ... |
| Cocke | 1,746 | 3,790 | 5,536 |
| Coffee | ... | ... | ... |
| Crockett | 34 | ... | 34 |
| Cumberland | 1,788 | 8,548 | 10,336 |
| Davidson | ... | ... | ... |
| Decatur | ... | ... | ... |
| De Kalb | ... | ... | ... |
| Dickson | ... | ... | ... |
| Dyer | ... | ... | ... |
| Fayette | ... | ... | ... |
| Fentress | ... | 3,057 | 3,057 |
| Franklin | ... | ... | ... |
| Gibson | ... | ... | ... |
| Giles | ... | ... | ... |
| Grainger | 13 | 143 | 156 |
| Greene | 101 | 455 | 556 |
| Grundy | 115 | 140 | 255 |
| Hamblen | ... | ... | ... |
| Hamilton | 30 | ... | 30 |
| Hancock | ... | ... | ... |
| Hardeman | ... | 847 | 847 |
| Hardin | ... | ... | ... |
| Hawkins | 20 | 1,857 | 1,877 |
| Haywood | ... | ... | ... |
| Henderson | ... | 716 | 716 |
| Henry | ... | 4,628 | 4,628 |
| Hickman | ... | 1,992 | 1,992 |
| Houston | ... | ... | ... |
| Humphreys | ... | ... | ... |
| Jackson | ... | ... | ... |
| Jefferson | 10 | ... | 10 |
| Johnson | ... | 3,226 | 3,226 |
| Knox | 17 | 1,255 | 1,272 |
| Lake | ... | ... | ... |

Table 9.--Pulpwood production in Tennessee, 1946 (Continued)

| County | Pine | Hardwood | Total |
|---|---|---|---|
| | - - - - | Standard cords | - - - - |
| Lauderdale | ... | ... | ... |
| Lawrence | ... | 1,717 | 1,717 |
| Lewis | ... | 858 | 858 |
| Lincoln | ... | ... | ... |
| Loudon | 29 | ... | 29 |
| McMinn | 3,131 | 32 | 3,163 |
| McNairy | ... | 286 | 286 |
| Macon | ... | ... | ... |
| Madison | ... | ... | ... |
| Marion | 12 | 70 | 82 |
| Marshall | ... | ... | ... |
| Maury | ... | ... | ... |
| Meigs | ... | ... | ... |
| Monroe | 12,018 | 3,942 | 15,960 |
| Montgomery | ... | ... | ... |
| Moore | ... | ... | ... |
| Morgan | 76 | ... | 76 |
| Obion | ... | ... | ... |
| Overton | 47 | 2,629 | 2,676 |
| Perry | ... | ... | ... |
| Pickett | ... | ... | ... |
| Polk | 9,447 | 4,462 | 13,909 |
| Putnam | 17 | 3,597 | 3,614 |
| Rhea | 84 | 1,001 | 1,085 |
| Roane | 397 | 65 | 462 |
| Robertson | ... | ... | ... |
| Rutherford | ... | | ... |
| Scott | ... | 751 | 751 |
| Sequatchie | ... | ... | ... |
| Sevier | ... | 1,167 | 1,167 |
| Shelby | ... | ... | ... |
| Smith | ... | ... | ... |
| Stewart | ... | ... | ... |
| Sullivan | 252 | 114 | 366 |
| Sumner | ... | ... | ... |
| Tipton | ... | ... | ... |
| Trousdale | ... | ... | ... |
| Unicoi | 195 | 2,695 | 2,890 |
| Union | ... | ... | ... |
| Van Buren | ... | 5,223 | 5,223 |
| Warren | ... | ... | ... |
| Washington | ... | ... | ... |
| Wayne | ... | ... | ... |
| Weakley | ... | 280 | 280 |
| White | ... | 3,366 | 3,366 |
| Williamson | ... | ... | ... |
| Wilson | ... | ... | ... |
| Unclassified | ... | 22,000 | 22,000 |
| Total | 30,699 | 104,847 | 135,546 |

Table 10.--Pulpwood production in Texas, 1946

| County[1] | Pine | Hardwood | Total |
|---|---:|---:|---:|
| | - - - - | - Standard cords - | - - - - |
| Anderson | 10,761 | 888 | 11,649 |
| Angelina | 29,066 | ... | 29,066 |
| Bowie | 4,259 | ... | 4,259 |
| Burleson | 13 | ... | 13 |
| Caldwell | 149 | ... | 149 |
| Camp | 2,602 | ... | 2,602 |
| Cass | 26,228 | ... | 26,228 |
| Cherokee | 71,574 | 802 | 72,376 |
| Franklin | 234 | ... | 234 |
| Gregg | 7,012 | 325 | 7,337 |
| Grimes | 5,892 | 585 | 6,477 |
| Hardin | 11,550 | 130 | 11,680 |
| Harris | 8,789 | 910 | 9,699 |
| Harrison | 1,520 | ... | 1,520 |
| Henderson | 3,693 | ... | 3,693 |
| Houston | 19,307 | ... | 19,307 |
| Jasper | 33,757 | 2,210 | 35,967 |
| Jefferson | 1,725 | 173 | 1,898 |
| Lee | 1,408 | ... | 1,408 |
| Leon | 15 | ... | 15 |
| Liberty | 16,018 | 1,647 | 17,665 |
| Madison | 941 | ... | 941 |
| Marion | 9,978 | ... | 9,978 |
| Montgomery | 58,132 | 3,769 | 61,901 |
| Morris | 3,625 | ... | 3,625 |
| Nacogdoches | 36,502 | 1,040 | 37,542 |
| Newton | 17,359 | 628 | 17,987 |
| Orange | 11,910 | 325 | 12,235 |
| Panola | 4,492 | ... | 4,492 |
| Polk | 26,585 | 1,733 | 28,318 |
| Red River | 2,750 | ... | 2,750 |
| Rusk | 29,227 | 1,387 | 30,614 |
| Sabine | 4,922 | ... | 4,922 |
| San Augustine | 16,508 | ... | 16,508 |
| San Jacinto | 9,448 | 997 | 10,445 |
| Shelby | 23,678 | 347 | 24,025 |
| Smith | 2,754 | ... | 2,754 |
| Titus | 141 | ... | 141 |
| Trinity | 24,823 | 1,192 | 26,015 |
| Tyler | 11,675 | 173 | 11,848 |
| Upshur | 13,649 | 2,404 | 16,053 |
| Walker | 28,053 | ... | 28,053 |
| Waller | 246 | ... | 246 |
| Wood | 1,351 | ... | 1,351 |
| Total | 594,321 | 21,665 | 615,986 |

[1] Counties with no pulpwood production are omitted.

Table 11.--Movement of pulpwood in Southern Forest Survey territory, 1946

| Producing State | Location of receiving mill | | | | | | | | | | Production | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ala. | Ark. | La. | Miss. | Tenn. | Tex. | Six States | Fla. | N. C. | Va. | Total | Pine | Hdwd. |
| | Thousand cords | | | | | | | | | | | | |
| Ala. | 558.8 | ... | ... | 2.2 | 2.4 | ... | ... | 173.9 | 3.2 | 15.9 | 756.4 | 731.2 | 25.2 |
| Ark. | ... | 324.3 | 218.9 | 33.9 | ... | ... | ... | ... | ... | ... | 577.1 | 511.5 | 65.6 |
| La. | ... | 26.3 | 752.7 | 6.0 | ... | 2.0 | ... | ... | ... | ... | 787.0 | 766.1 | 20.9 |
| Miss. | 94.0 | 3.8 | 590.6 | 535.5 | 12.2 | ... | ... | ... | ... | 2.1 | 1238.2 | 983.9 | 254.3 |
| Okla. | ... | 4.5 | 8.8 | ... | ... | ... | ... | ... | ... | ... | 13.3 | 13.3 | ... |
| Tenn. | ... | ... | ... | ... | 56.6 | ... | ... | ... | 40.8 | 38.1 | 135.5 | 30.7 | 104.8 |
| Texas | ... | 8.1 | 214.9 | ... | ... | 393.0 | ... | ... | ... | ... | 616.0 | 594.3 | 21.7 |
| Southern Forest Survey territory | | | | | | | | | | | 4123.5 | 3631.0 | 492.5 |
| Fla. | 3.0 | ... | ... | ... | ... | ... | ... | | | | | | |
| Ga. | .2 | ... | ... | ... | 13.9 | ... | ... | | | | | | |
| Ky. | ... | ... | ... | ... | 17.1 | ... | ... | | | | | | |
| N. C. | ... | ... | ... | ... | 28.0 | ... | ... | | | | | | |
| S. C. | ... | ... | ... | ... | 8.0 | ... | ... | | | | | | |
| Va. | ... | ... | ... | ... | 12.2 | ... | ... | | | | | | |
| Total receipts at mills: | 656.0 | 367.0 | 1785.9 | 577.6 | 150.4 | 395.0 | 3931.9 | | | | | | |
| Pine | 652.4 | 360.6 | 1628.7 | 417.5 | ... | 373.3 | 3432.5 | | | | | | |
| Hardwood | 3.6 | 6.4 | 157.2 | 160.1 | 150.4 | 21.7 | 499.4 | | | | | | |

FOREST SURVEY RELEASE 57 SEPTEMBER 1948

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# FOREST STATISTICS FOR THE
# ARKANSAS OZARKS

A PROGRESS REPORT OF THE SOUTHERN FOREST SURVEY
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SOUTHERN FOREST EXPERIMENT STATION
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New Orleans, La.

# THE SOUTHERN FOREST SURVEY

The Southern Forest Survey, an activity of the Southern Forest Experiment Station, covers the seven States of the Station's territory--Alabama, Arkansas, Louisiana, Mississippi, Oklahoma, Tennessee, and Texas. This Survey is a part of the nation-wide Forest Survey authorized by the McSweeney-McNary Forest Research Act of 1928. Its five-fold purpose is (1) to take inventory of the supply of standing timber and other forest products; (2) to ascertain the rate at which this supply is being increased through growth; (3) to determine the rate at which this supply is being diminished through industrial and local use, and by fire, insects, disease, and other agencies; (4) to estimate the present requirements and the probable future trend in the requirements for timber and other forest products; and (5) to correlate these findings with existing and anticipated economic conditions, in order that policies may be formulated for the effective use of lands suitable for forest production.

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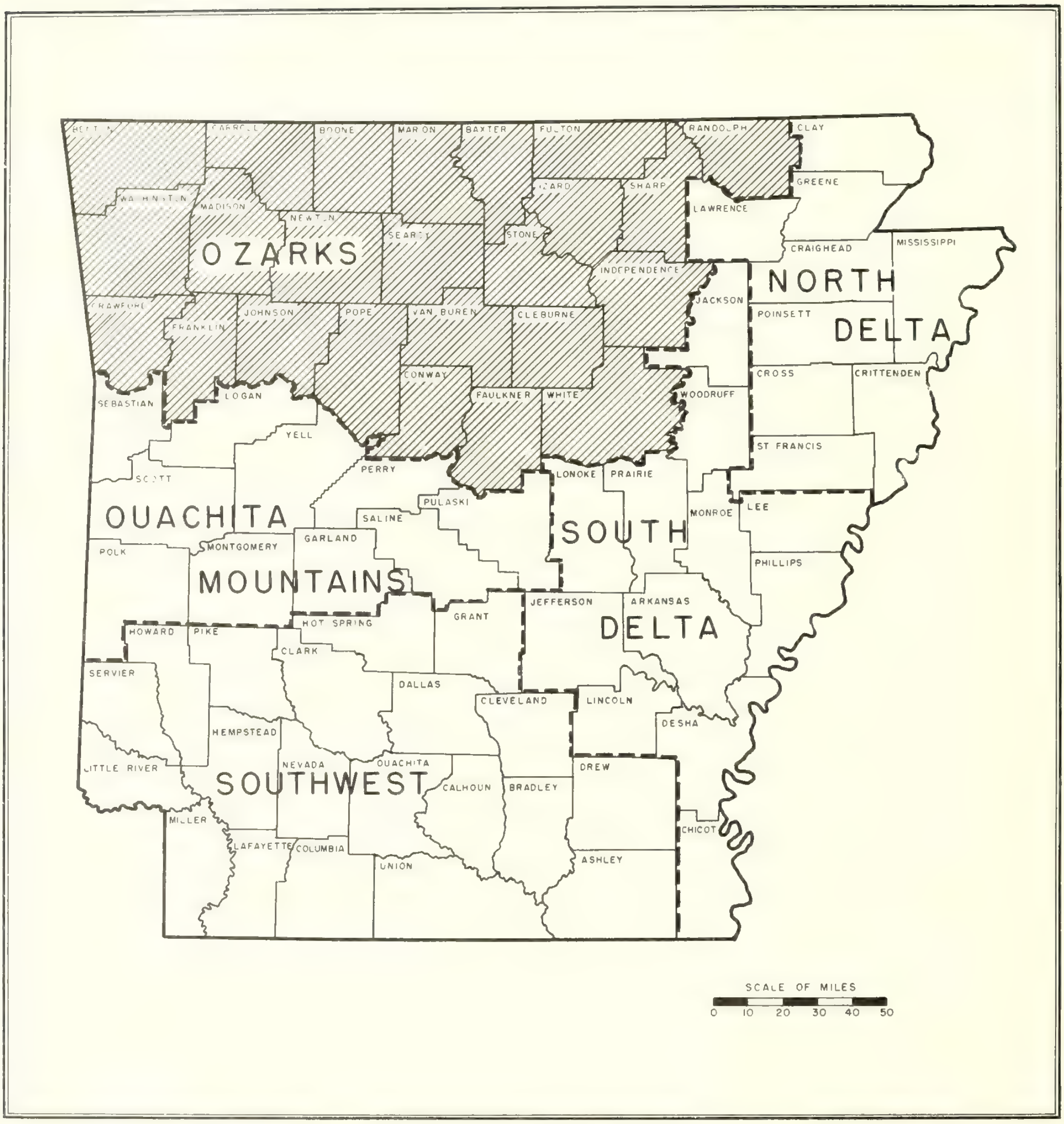

Figure 1.--The Ozarks in relation to the other Forest Survey regions in Arkansas.

# FOREST STATISTICS FOR THE ARKANSAS OZARKS

This publication summarizes the data on forest area, timber volume, and timber growth collected by the Southern Forest Survey in the Ozark region of Arkansas, the 24 counties in the mountainous northwest portion of the State (figure 1). The Survey, made between April 1947 and April 1948, was the first of its kind in this section of the State. The remainder of Arkansas, covered by the Southern Forest Survey in 1935 and 1936, will be resurveyed in 1949.

## Highlights

The current Survey found that nearly 60 percent of the land--over 6 million acres--is forested. The even distribution of the forest is shown by the fact that only 5 counties of the 24 are less than half forested.

Private owners hold 82 percent of the forest land. Fifteen percent is in the Ozark National Forest, and 3 percent is held by other public agencies.

The principal forest types (figure 2) are upland hardwood and upland hardwood-pine, which together cover 79 percent of the total forest land. The shortleaf pine type, which is scattered throughout the Ozarks, includes 12 percent of the forest. Bottomland hardwood, occurring chiefly along the eastern and southern edges of the Ozarks, includes 5 percent. The cedar type, localized in the northern portion of the region, includes 4 percent of the forest.

The timber is small. More than half the forest acreage is in cordwood stands and an additional 31 percent is below cordwood size. Only 17 percent is in saw-timber stands.

The density of growing stock is low. One-third of the forest is well stocked, but close to a half is partially stocked and the rest is poorly stocked or nonstocked. The volume of cull trees is nearly three-fourths as great as the volume of growing stock.

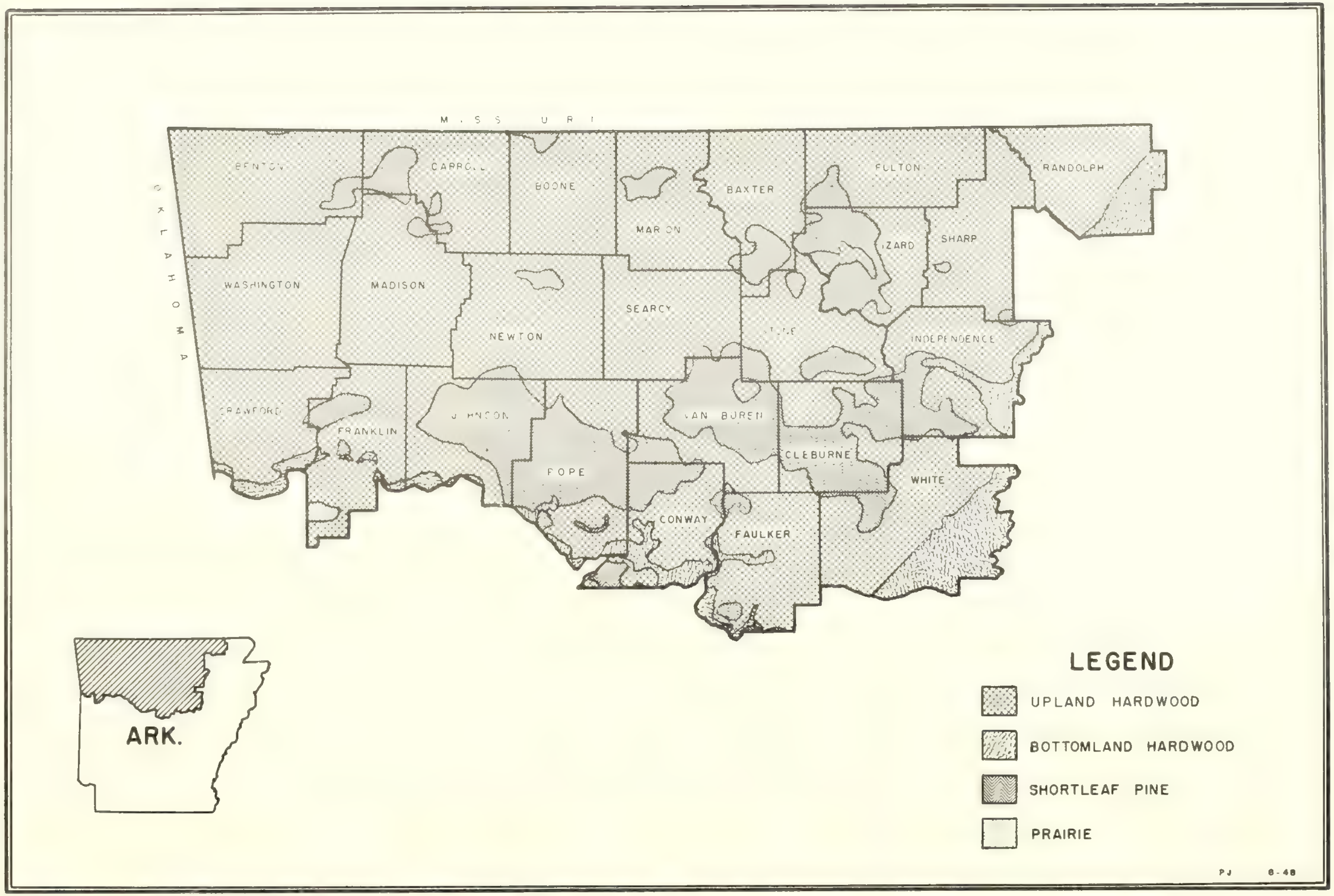

Figure 2.--Generalized forest types in the Arkansas Ozarks. The cedar and upland hardwood-pine types are not concentrated enough to be shown.

Growing-stock volume is low, and half of it is in cordwood-size trees. The total growing stock is 1,667 million cubic feet, or an average of 273 cubic feet per acre. Volume per acre is heavier in the shortleaf pine and bottomland hardwood types than it is in the upland hardwood and upland hardwood-pine types.

Hardwoods comprise 83 percent of the total growing stock. Black oak and other species in the red oak group are 30 percent of the total; white oaks, 23 percent; and other hardwoods--mainly hickory and gums--30 percent. The volume of softwoods is relatively small: shortleaf pine is 16 percent of the total; redcedar and cypress, only 1 percent.

Sawlog growing stock is low: 5,434 million board feet, or 889 board feet per acre. Some 47 percent of the sawlog volume occurs in trees scattered through cordwood and smaller stands, which emphasizes the fact that much of the volume cannot be harvested economically because of its sparse distribution.

Sawlog growing stock, like total growing stock, occurs principally in hardwood species. Red oaks are 35 percent, white oaks are 22 percent, and gums, hickory, and other hardwoods are 29 percent. The remaining 14 percent is softwood.

Not only does sawlog volume occur mainly in small trees and often in insufficient concentration for commercial cutting, but quality is outstandingly poor. Grade 2 and better logs occur on only 15 percent of the saw-timber area. Only one-fourth of the hardwood sawlog volume is in grade 1 or grade 2 logs; three-fourths is low-grade. In softwoods, one-half the volume is in low-grade trees.

Current growth of the total growing stock is 83.7 million cubic feet, of which 60 percent is being added in trees of cordwood size. The average growth per acre of forest land is 14 cubic feet per year, including pine as well as hardwood areas. Sawlog growth amounts to 302.5 million board feet, or an average of 49 board feet per acre per year.

## Accuracy of the Data

The Ozark forest data were obtained from a sampling of aerial photographs and from on-the-ground measurements on pairs of quarter-acre sample plots located every 3 miles on lines 3 miles apart throughout the region. Statistical analysis of the data indicates a sampling error of 0.5 percent for the estimate of total forest area, and of 3.4 percent for total board-foot volume. As these totals are broken down by county, forest type, species, and other subdivisions, the possibility of error increases and is greatest for the smallest items. The maximum sampling error to which the estimates are liable, on a probability of two chances out of three, is approximately as follows:

| Maximum sampling error in forest area | | Maximum sampling error in cubic-foot volume | | Maximum sampling error in board-foot volume | |
|---|---|---|---|---|---|
| Thousand acres | Percent error | Million cu. ft. | Percent error | Million bd. ft. | Percent error |
| 6,000 | 0.5 | 1,600 | 2.6 | 5,000 | 3.4 |
| 3,000 | .7 | 1,000 | 3.4 | 3,000 | 4.4 |
| 1,000 | 1.2 | 300 | 6.2 | 1,000 | 7.7 |
| 500 | 1.8 | 100 | 10.6 | 500 | 10.9 |
| 50 | 5.6 | 30 | 19.4 | 50 | 34.4 |

The estimates of sampling error do not include errors in volume tables, cull allowances, or other such measurements. Methods of estimating errors of this type have not been developed.

Definitions of terms used in this report will be found on pages 20 to 23.

Table 1.--Land area by type of use, 1948

| Land use | Area | Proportion of total area |
|---|---|---|
| | Thousand acres | Percent |
| Forest: | | |
| Commercial | 6,113.7 | 57.4 |
| Noncommercial | 20.8 | .2 |
| Total forest | 6,134.5 | 57.6 |
| Farm nonforest:[1] | | |
| Cropland in use | 1,368.0 | 12.8 |
| Idle or fallow | 285.4 | 2.7 |
| Pasture | 1,926.4 | 18.0 |
| Other farm | 273.9 | 2.6 |
| Total farm nonforest | 3,853.7 | 36.1 |
| Other nonforest land | 672.3 | 6.3 |
| All land | 10,660.5 | 100.0 |

[1] Based on 1945 Census of Agriculture.

Table 2.--Forest land by class of ownership, 1948

| Class of ownership | Commercial forest | | Noncommercial forest | |
|---|---|---|---|---|
| | Thousand acres | Percent | Thousand acres | Percent |
| Private: | | | | |
| Farm[1] | 2,372.7 | 38.8 | 1.3 | 6.2 |
| Other | 2,641.5 | 43.2 | 1.4 | 6.8 |
| Total private | 5,014.2 | 82.0 | 2.7 | 13.0 |
| Public: | | | | |
| National forest | 893.2 | 14.7 | 6.0 | 28.8 |
| Public domain | 118.8 | 1.9 | | |
| Other federal | 54.1 | .9 | | |
| State | 2.5 | (2/) | 12.1 | 58.2 |
| County | 30.9 | .5 | | |
| Total public | 1,099.5 | 18.0 | 18.1 | 87.0 |
| All ownership | 6,113.7 | 100.0 | 20.8 | 100.0 |

[1] Based on 1945 Census of Agriculture.
[2] Negligible.

Table 3.--Land area and commercial forest by county, 1948

| County | All land | Commercial forest | |
|---|---|---|---|
| | Thousand acres | Thousand acres | Percent |
| Baxter | 365.4 | 256.8 | 70 |
| Benton | 567.0 | 254.6 | 45 |
| Boone | 385.3 | 206.6 | 54 |
| Carroll | 405.8 | 236.6 | 58 |
| Cleburne | 380.8 | 230.3 | 60 |
| Conway | 358.4 | 147.1 | 41 |
| Crawford | 382.7 | 193.7 | 51 |
| Faulkner | 419.8 | 165.7 | 39 |
| Franklin | 393.6 | 178.2 | 45 |
| Fulton | 391.0 | 239.6 | 61 |
| Independence | 483.2 | 259.4 | 54 |
| Izard | 367.4 | 200.6 | 55 |
| Johnson | 432.6 | 234.7 | 54 |
| Madison | 532.5 | 354.9 | 67 |
| Marion | 401.9 | 273.1 | 68 |
| Newton | 526.1 | 400.8 | 76 |
| Pope | 522.2 | 306.7 | 59 |
| Randolph | 407.7 | 208.5 | 51 |
| Searcy | 425.0 | 294.6 | 69 |
| Sharp | 381.4 | 258.1 | 68 |
| Stone | 390.4 | 291.5 | 75 |
| Van Buren | 457.0 | 300.9 | 66 |
| Washington | 616.4 | 308.4 | 50 |
| White | 666.9 | 312.3 | 47 |
| All counties | 10,660.5 | 6,113.7 | 57 |

Table 4.--Commercial forest land by stand-size class and forest type, 1948

| Forest type | All stand sizes | Large saw timber | Small saw timber | Cordwood | Seedling and sapling | Restocking and denuded |
|---|---|---|---|---|---|---|
| | - - - - - - | | Thousand acres | - - - - - - | | |
| Softwood types: | | | | | | |
| Shortleaf pine | 740.7 | 30.6 | 148.7 | 476.8 | 53.4 | 31.2 |
| Cedar | 250.3 | ... | ... | 63.8 | 124.9 | 61.6 |
| Total | 991.0 | 30.6 | 148.7 | 540.6 | 178.3 | 92.8 |
| Hardwood types: | | | | | | |
| Bottomland hardwood | 321.6 | 56.2 | 76.7 | 133.2 | 34.6 | 20.9 |
| Upland hardwood | 4,094.8 | 202.5 | 417.5 | 2,100.7 | 1,020.3 | 353.8 |
| Upland hardwood-pine | 706.3 | 38.4 | 55.5 | 414.6 | 159.9 | 37.9 |
| Total | 5,122.7 | 297.1 | 549.7 | 2,648.5 | 1,214.8 | 412.6 |
| All types | 6,113.7 | 327.7 | 698.4 | 3,189.1 | 1,393.1 | 505.4 |

Table 5.--Commercial forest land by degree of tree stocking and forest type, 1948

| Forest type | All stocking | Well stocked | Partially stocked | Poorly stocked | Non-stocked |
|---|---|---|---|---|---|
| | - - - - | - | Thousand acres | - - | - - |
| Softwood types: | | | | | |
| Shortleaf pine | 740.7 | 284.0 | 339.7 | 111.7 | 5.3 |
| Cedar | 250.3 | 41.7 | 138.9 | 59.2 | 10.5 |
| Total | 991.0 | 325.7 | 478.6 | 170.9 | 15.8 |
| Hardwood types: | | | | | |
| Bottomland hardwood | 321.6 | 120.4 | 134.9 | 57.5 | 8.8 |
| Upland hardwood | 4,094.8 | 1,453.5 | 1,830.9 | 747.4 | 63.0 |
| Upland hardwood-pine | 706.3 | 297.2 | 306.2 | 95.1 | 7.8 |
| Total | 5,122.7 | 1,871.1 | 2,272.0 | 900.0 | 79.6 |
| All types | 6,113.7 | 2,196.8 | 2,750.6 | 1,070.9 | 95.4 |

Table 6.--Commercial forest land by degree of tree stocking and stand-size class, 1948

| Stand size | All stocking | Well stocked | Partially stocked | Poorly stocked | Non-stocked |
|---|---|---|---|---|---|
| | - - - - | - | Thousand acres | - - | - - |
| Large saw timber | 327.7 | 172.7 | 135.4 | 19.6 | ... |
| Small saw timber | 698.4 | 366.0 | 301.0 | 31.4 | ... |
| Cordwood | 3,189.1 | 1,245.4 | 1,333.8 | 609.9 | ... |
| Seedling and sapling | 1,393.1 | 412.7 | 980.4 | ([1]) | ... |
| Restocking and denuded | 505.4 | ... | ... | 410.0 | 95.4 |
| All sizes | 6,113.7 | 2,196.8 | 2,750.6 | 1,070.9 | 95.4 |

[1] Stands of seedling and sapling size less than 40 percent stocked are classed as restocking.

Table 7.--Area of saw-timber stands by stand-quality class and forest type, 1948

| Forest type | All qualities | Fair or better | Poor |
|---|---|---|---|
| | - - - | Thousand acres | - - - |
| Softwood types: | | | |
| Shortleaf pine | 740.7 | 164.9 | 575.8 |
| Cedar | 250.3 | 5.7 | 244.6 |
| Total | 991.0 | 170.6 | 820.4 |
| Hardwood types: | | | |
| Bottomland hardwood | 321.6 | 80.0 | 241.6 |
| Upland hardwood | 4,094.8 | 558.5 | 3,536.3 |
| Upland hardwood-pine | 706.3 | 84.8 | 621.5 |
| Total | 5,122.7 | 723.3 | 4,399.4 |
| All types | 6,113.7 | 893.9 | 5,219.8 |

Table 8.--Growing-stock[1] basal area per acre, by forest-type group, stand-size group, and tree diameter class, 1948

| Tree diameter class | All types and stand sizes | Softwood types |  |  | Hardwood types |  |  |
|---|---|---|---|---|---|---|---|
|  |  | Saw-timber stands | Cordwood stands | Other stands | Saw-timber stands | Cordwood stands | Other stands |
|  | - - - - - - - - | - - Square | feet - - - - |  |  |  |  |
| 2 | 5.6 | 3.7 | 6.0 | 3.5 | 5.6 | 5.1 | 6.6 |
| 4 | 5.9 | 6.0 | 10.1 | 4.6 | 4.4 | 6.2 | 4.8 |
| 6 | 4.8 | 6.1 | 10.5 | 1.7 | 3.7 | 5.6 | 2.2 |
| 8 | 4.4 | 8.8 | 8.4 | 1.7 | 4.1 | 5.6 | 1.4 |
| 10 | 4.1 | 10.0 | 4.1 | 1.1 | 5.8 | 5.0 | 1.3 |
| 12 | 3.4 | 8.3 | 2.6 | .6 | 7.4 | 3.6 | 1.2 |
| 14 | 2.8 | 6.8 | 1.6 | .6 | 7.5 | 2.6 | 1.1 |
| 16 | 1.9 | 5.4 | .8 | .4 | 5.7 | 1.6 | .6 |
| 18 | 1.4 | 1.4 | .4 | .3 | 4.9 | 1.1 | .6 |
| 20 | .7 | 1.0 | .1 | .1 | 2.9 | .5 | .2 |
| 22 | .5 | .3 | .1 | .1 | 2.1 | .4 | .2 |
| 24 | .3 | ... | ... | ... | 1.4 | .2 | .1 |
| 26 | .1 | ... | ... | ... | .7 | .1 | ... |
| 28 | .1 | .2 | ... | ... | .7 | (2/) | ... |
| 30 | (2/) | ... | ... | ... | .2 | (2/) | ... |
| 32 | (2/) | ... | ... | ... | .1 | ... | ... |
| 34 | (2/) | ... | ... | ... | .1 | ... | ... |
| 40 | (2/) | ... | ... | ... | .1 | ... | ... |
| All diameters | 36.0 | 58.0 | 44.7 | 14.7 | 57.4 | 37.6 | 20.3 |

[1] Including sound, well-formed, 2- and 4-inch trees.
[2] Negligible.

Table 9.--Distribution of total growing stock by species within each forest type, 1948

| Species | All types | Short-leaf pine | Cedar | Bottom-land hardwood | Upland hard-wood | Upland hardwood-pine |
|---|---|---|---|---|---|---|
| | Percent | | | | | |
| Shortleaf pine | 16.0 | 76.1 | 3.4 | ... | ... | 15.6 |
| Other softwood[1] | 1.2 | .1 | 34.2 | 3.8 | 0.4 | 1.2 |
| Total softwood | 17.2 | 76.2 | 37.6 | 3.8 | .4 | 16.8 |
| Black oak | 18.3 | 5.5 | 2.4 | .3 | 23.9 | 26.8 |
| Northern red and Shumard oaks | 6.9 | .5 | 2.9 | .4 | 10.3 | 4.9 |
| Water oaks[2] | 2.0 | ... | ... | 19.3 | .4 | ... |
| Other red oaks | 3.3 | .7 | ... | 5.3 | 4.1 | 2.7 |
| White oaks, except post oak | 13.3 | 6.3 | 2.9 | 8.7 | 15.5 | 18.5 |
| Post oak | 10.0 | 2.7 | 22.5 | 1.4 | 13.6 | 8.3 |
| Sweetgum | 5.0 | .6 | 1.0 | 19.3 | 4.7 | 2.5 |
| Blackgum | 4.4 | 2.7 | ... | 1.6 | 5.3 | 5.4 |
| Hickory | 10.9 | 4.2 | 14.1 | 3.9 | 13.9 | 11.3 |
| Other hardwood | 8.7 | .6 | 16.6 | 36.0 | 7.9 | 2.8 |
| Total hardwood | 82.8 | 23.8 | 62.4 | 96.2 | 99.6 | 83.2 |
| All species | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

[1] Principally redcedar and some cypress.
[2] Nuttall, water, and willow oaks.

Table 10.--Total volume by class of timber and species, 1948

| Species | All timber | Growing stock |  |  | Tops and limbs | Cull trees |
|---|---|---|---|---|---|---|
|  |  | All trees 1/ | Sawlog trees | Cordwood trees |  |  |
|  | - - - - - Million cubic feet - - - - - |  |  |  |  |  |
| Shortleaf pine | 281.1 | 267.2 | 118.4 | 113.3 | ... | 13.9 |
| Other softwood 2/ | 29.1 | 19.3 | 6.1 | 11.4 | ... | 9.8 |
| Total softwood | 310.2 | 286.5 | 124.5 | 124.7 | ... | 23.7 |
| Black oak | 595.9 | 304.6 | 173.0 | 131.6 | 119.8 | 171.5 |
| Northern red and Shumard oaks | 237.4 | 114.8 | 69.8 | 45.0 | 44.8 | 77.8 |
| Water oaks 3/ | 64.3 | 34.1 | 26.8 | 7.3 | 16.5 | 13.7 |
| Other red oaks | 97.9 | 55.8 | 31.4 | 24.4 | 19.3 | 22.8 |
| White oaks, except post oak | 451.7 | 222.0 | 110.7 | 111.3 | 71.1 | 158.6 |
| Post oak | 443.3 | 166.6 | 80.0 | 86.6 | 59.3 | 217.4 |
| Sweetgum | 132.7 | 83.5 | 53.4 | 30.1 | 26.8 | 22.4 |
| Blackgum | 170.3 | 73.5 | 57.5 | 16.0 | 32.7 | 64.1 |
| Hickory | 334.6 | 181.2 | 66.4 | 114.8 | 38.3 | 115.1 |
| Other hardwood | 498.5 | 144.2 | 77.5 | 66.7 | 50.2 | 304.1 |
| Total hardwood | 3,026.6 | 1,380.3 | 746.5 | 633.8 | 478.8 | 1,167.5 |
| All species | 3,336.8 | 1,666.8 | 871.0 | 758.5 | 478.8 | 1,191.2 |

1/ Includes tops of softwoods.
2/ Principally redcedar and some cypress.
3/ Nuttall, water, and willow oaks.

Table 11.--Total growing stock by species and stand-size class, 1948

| Species | All stand sizes | Large saw timber | Small saw timber | Cordwood | Seedling and sapling | Restocking and denuded |
|---|---|---|---|---|---|---|
| | - - - - | - | Million cubic feet | - | - - - - | |
| Shortleaf pine | 267.2 | 19.1 | 102.3 | 138.4 | 6.0 | 1.4 |
| Other softwood 1/ | 19.3 | .6 | 4.5 | 10.5 | 3.4 | .3 |
| Total softwood | 286.5 | 19.7 | 106.8 | 148.9 | 9.4 | 1.7 |
| Black oak | 304.6 | 39.6 | 77.2 | 163.2 | 20.3 | 4.3 |
| Northern red and Shumard oaks | 114.8 | 15.3 | 31.3 | 57.6 | 8.8 | 1.8 |
| Water oaks 2/ | 34.1 | 14.7 | 10.7 | 7.7 | .8 | .2 |
| Other red oaks | 55.8 | 6.8 | 12.9 | 31.1 | 4.0 | 1.0 |
| White oaks, except post oak | 222.0 | 27.6 | 51.7 | 122.0 | 17.9 | 2.8 |
| Post oak | 166.6 | 6.5 | 20.3 | 114.2 | 20.2 | 5.4 |
| Sweetgum | 83.5 | 19.5 | 31.7 | 26.3 | 5.1 | .9 |
| Blackgum | 73.5 | 20.8 | 19.5 | 27.0 | 5.6 | .6 |
| Hickory | 181.2 | 14.8 | 33.2 | 110.9 | 17.7 | 4.6 |
| Other hardwood | 144.2 | 28.2 | 32.8 | 64.5 | 11.9 | 6.8 |
| Total hardwood | 1,380.3 | 193.8 | 321.3 | 724.5 | 112.3 | 28.4 |
| All species | 1,666.8 | 213.5 | 428.1 | 873.4 | 121.7 | 30.1 |

1/ Principally redcedar and some cypress.
2/ Nuttall, water, and willow oaks.

Table 12.--Average volume per acre of total growing stock by stand-size class and forest type, 1948

| Forest type | All stand sizes | Large saw timber | Small saw timber | Cordwood | Seedling and sapling | Restocking and denuded |
|---|---|---|---|---|---|---|
| | - - - - - | | | Cubic feet | - - - - - | |
| Softwood types: | | | | | | |
| Shortleaf pine | 425 | 752 | 813 | 344 | 101 | 48 |
| Cedar | 82 | ... | ... | 179 | 61 | 23 |
| All softwood types | 338 | 752 | 813 | 324 | 73 | 31 |
| Hardwood types: | | | | | | |
| Bottomland hardwood | 477 | 804 | 630 | 383 | 130 | 206 |
| Upland hardwood | 245 | 608 | 548 | 258 | 86 | 61 |
| Upland hardwood-pine | 247 | 578 | 544 | 252 | 100 | 32 |
| All hardwood types | 260 | 641 | 559 | 264 | 89 | 66 |
| All types | 273 | 652 | 613 | 274 | 87 | 60 |

Table 13.--Sawlog and total growing stock by species group and county, 1948

| County | Total growing stock | | | Sawlog growing stock | | |
|---|---|---|---|---|---|---|
| | All species | Softwood | Hardwood | All species | Softwood | Hardwood |
| | Million cubic feet | | | Million board feet | | |
| Baxter | 63.8 | 7.9 | 55.9 | 220.2 | 31.4 | 188.8 |
| Benton | 56.3 | 1.7 | 54.6 | 199.8 | 4.9 | 194.9 |
| Boone | 56.5 | 1.2 | 55.3 | 182.6 | 2.1 | 180.5 |
| Carroll | 49.9 | 8.2 | 41.7 | 161.8 | 22.8 | 139.0 |
| Cleburne | 77.8 | 36.4 | 41.4 | 217.5 | 81.0 | 136.5 |
| Conway | 31.5 | 7.0 | 24.5 | 82.7 | 12.8 | 69.9 |
| Crawford | 43.5 | 1.9 | 41.6 | 158.1 | 6.6 | 151.5 |
| Faulkner | 62.3 | 10.8 | 51.5 | 234.4 | 34.4 | 200.0 |
| Franklin | 59.4 | 12.3 | 47.1 | 252.3 | 58.0 | 194.3 |
| Fulton | 37.5 | 1.4 | 36.1 | 125.5 | 1.5 | 124.0 |
| Independence | 84.4 | 8.6 | 75.8 | 241.0 | 12.3 | 228.7 |
| Izard | 46.4 | 7.7 | 38.7 | 129.4 | 14.4 | 115.0 |
| Johnson | 89.3 | 34.5 | 54.8 | 265.4 | 93.3 | 172.1 |
| Madison | 79.3 | 4.3 | 75.0 | 250.4 | 7.3 | 243.1 |
| Marion | 28.7 | 4.1 | 24.6 | 104.1 | 12.1 | 92.0 |
| Newton | 105.6 | 7.5 | 98.1 | 374.2 | 15.6 | 358.6 |
| Pope | 101.8 | 30.8 | 71.0 | 330.2 | 84.0 | 246.2 |
| Randolph | 56.0 | 1.1 | 54.9 | 162.6 | 1.8 | 160.8 |
| Searcy | 88.6 | 9.8 | 78.8 | 277.8 | 21.6 | 256.2 |
| Sharp | 49.0 | 3.1 | 45.9 | 160.0 | 8.7 | 151.3 |
| Stone | 97.8 | 26.3 | 71.5 | 322.7 | 63.2 | 259.5 |
| Van Buren | 120.3 | 52.1 | 68.2 | 368.3 | 138.1 | 230.2 |
| Washington | 56.8 | .2 | 56.6 | 183.8 | ... | 183.8 |
| White | 124.3 | 7.6 | 116.7 | 429.2 | 16.3 | 412.9 |
| All counties | 1,666.8 | 286.5 | 1,380.3 | 5,434.0 | 744.2 | 4,689.8 |

Table 14.--Sawlog volume by species and tree diameter class, 1948

| Species | All diameter classes | 10 inches | 12 inches | 14 and 16 inches | 18 and 20 inches | 22 and 24 inches | 26 inches and above |
|---|---|---|---|---|---|---|---|
| | - - - - - | - - | - Million | board feet | - - | - - | - - |
| Shortleaf pine | 710.1 | 235.1 | 177.0 | 257.4 | 34.5 | 6.1 | ... |
| Other softwood 1/ | 34.1 | 10.5 | 14.5 | 6.6 | 2.5 | ... | ... |
| Total softwood | 744.2 | 245.6 | 191.5 | 264.0 | 37.0 | 6.1 | ... |
| Black oak | 1,105.0 | ... | 240.5 | 418.8 | 271.2 | 125.1 | 49.4 |
| Northern red and Shumard oaks | 449.3 | ... | 90.8 | 166.0 | 97.6 | 50.8 | 44.1 |
| Water oaks 2/ | 170.6 | ... | 20.8 | 64.5 | 53.5 | 20.6 | 11.2 |
| Other red oaks | 197.0 | ... | 57.1 | 89.0 | 29.8 | 16.1 | 5.0 |
| White oaks, except post oak | 705.9 | ... | 184.7 | 279.4 | 135.4 | 72.6 | 33.8 |
| Post oak | 482.1 | ... | 123.3 | 225.8 | 107.8 | 20.3 | 4.9 |
| Sweetgum | 333.7 | ... | 65.9 | 134.1 | 85.2 | 39.2 | 9.3 |
| Blackgum | 366.3 | ... | 45.7 | 137.9 | 126.0 | 29.9 | 26.8 |
| Hickory | 399.3 | ... | 126.3 | 194.7 | 56.0 | 17.7 | 4.6 |
| Other hardwood | 480.6 | ... | 120.9 | 184.4 | 100.6 | 51.3 | 23.4 |
| Total hardwood | 4,689.8 | ... | 1,076.0 | 1,894.6 | 1,063.1 | 443.6 | 212.5 |
| All species | 5,434.0 | 245.6 | 1,267.5 | 2,158.6 | 1,100.1 | 449.7 | 212.5 |

1/ Cypress and redcedar in roughly equal amounts.
2/ Nuttall, water, and willow oaks.

Table 15.--Sawlog volume by species and stand-size class, 1948

| Species | All stand sizes | Large saw timber | Small saw timber | Cordwood | Seedling and sapling | Restocking and denuded |
|---|---|---|---|---|---|---|
| | - - - - | Million board feet | - - - - | | | |
| Shortleaf pine | 710.1 | 89.6 | 384.2 | 217.9 | 15.8 | 2.6 |
| Other softwood 1/ | 34.1 | 2.6 | 12.8 | 12.9 | 5.3 | .5 |
| Total softwood | 744.2 | 92.2 | 397.0 | 230.8 | 21.1 | 3.1 |
| Black oak | 1,105.0 | 214.4 | 364.2 | 446.6 | 62.5 | 17.3 |
| Northern red and Shumard oaks | 449.3 | 89.1 | 154.7 | 171.7 | 26.2 | 7.6 |
| Water oaks 2/ | 170.6 | 82.7 | 61.9 | 21.8 | 3.7 | .5 |
| Other red oaks | 197.0 | 35.7 | 60.8 | 84.9 | 10.0 | 5.6 |
| White oaks, except post oak | 705.9 | 144.5 | 189.2 | 301.1 | 60.3 | 10.8 |
| Post oak | 482.1 | 26.9 | 84.7 | 289.5 | 66.7 | 14.3 |
| Sweetgum | 333.7 | 111.5 | 120.4 | 77.8 | 19.6 | 4.4 |
| Blackgum | 366.3 | 123.5 | 104.0 | 115.4 | 21.3 | 2.1 |
| Hickory | 399.3 | 56.3 | 99.6 | 193.0 | 35.7 | 14.7 |
| Other hardwood | 480.6 | 148.8 | 140.3 | 145.0 | 28.5 | 18.0 |
| Total hardwood | 4,689.8 | 1,033.4 | 1,379.8 | 1,846.8 | 334.5 | 95.3 |
| All species | 5,434.0 | 1,125.6 | 1,776.8 | 2,077.6 | 355.6 | 98.4 |

1/ Cypress and redcedar in roughly equal amounts.
2/ Nuttall, water, and willow oaks.

Table 16.--Sawlog volume by softwood tree grade, hardwood log grade, and stand-quality class, 1948

| Species group | All grades | Grade 1 | Grade 2 | Grade 3 | |
|---|---|---|---|---|---|
| | | | | In fair and better stands | In poor stands |
| | - - - - | Million board feet | - - - | - - | - - |
| Softwood | 744.2 | 74.4 | 290.2 | 125.3 | 254.3 |
| Hardwood | 4,689.8 | 375.2 | 750.4 | 1,069.3 | 2,494.9 |
| All species | 5,434.0 | 449.6 | 1,040.6 | 1,194.6 | 2,749.2 |

Table 17.--Average sawlog volume per acre by stand-size class and forest type, 1948

| Forest type | All stand sizes | Large saw timber | Small saw timber | Cordwood | Seedling and sapling | Restocking and denuded |
|---|---|---|---|---|---|---|
| | - - - - | Board feet | - - - | - - | - - | - - |
| Softwood types: | | | | | | |
| Shortleaf pine | 1,145 | 3,183 | 3,057 | 585 | 292 | 67 |
| Cedar | 208 | ... | ... | 500 | 131 | 62 |
| All softwood types | 909 | 3,183 | 3,057 | 575 | 179 | 64 |
| Hardwood types: | | | | | | |
| Bottomland hardwood | 1,967 | 4,422 | 2,780 | 1,047 | 572 | 555 |
| Upland hardwood | 817 | 3,308 | 2,343 | 646 | 260 | 217 |
| Upland hardwood-pine | 784 | 2,859 | 2,353 | 654 | 240 | 111 |
| All hardwood types | 885 | 3,461 | 2,405 | 667 | 266 | 224 |
| All types | 889 | 3,435 | 2,544 | 651 | 255 | 195 |

Table 18.--Current annual net growth of sawlog and total growing stock, by species group and class of timber, 1948

| Class of timber | Total growing stock |  |  | Sawlog growing stock |  |  |
|---|---|---|---|---|---|---|
|  | All species | Softwood | Hardwood | All species | Softwood | Hardwood |
|  | Million cubic feet |  |  | Million board feet |  |  |
| Sawlog trees | 33.7 | 12.6 | 21.1 | 302.5 | 74.9 | 227.6 |
| Cordwood trees | 50.0 | 5.7 | 44.3 | ... | ... | ... |
| All trees | 83.7 | 18.3 | 65.4 | 302.5 | 74.9 | 227.6 |

Table 19.--Average current annual net growth per acre of sawlog and total growing stock, by forest-type group and stand-size group, 1948

| Stand-size group | Total growing stock |  |  | Sawlog growing stock |  |  |
|---|---|---|---|---|---|---|
|  | All types | Softwood types | Hardwood types | All types | Softwood types | Hardwood types |
|  | Cubic feet |  |  | Board feet |  |  |
| Saw timber | 19 | 30 | 17 | 117 | 148 | 111 |
| Cordwood | 15 | 25 | 13 | 50 | 75 | 45 |
| Other stand sizes | 9 | 8 | 9 | 12 | 26 | 10 |
| All stand sizes | 14 | 21 | 12 | 49 | 75 | 45 |

# Definition of Terms

## Forest Land

Forest land. Land which bears forest growth, or land from which the forest has been removed and which has not been put to other use. Each tract classed as forest is at least one acre in size.

Commercial forest land. Land bearing, or capable of bearing, timber of commercial quantity and quality, and not withdrawn from commercial timber use.

Noncommercial forest land. Includes (1) land in public parks or preserves withdrawn from commercial timber use, and (2) land which appears to be permanently incapable of commercial timber production because of low productivity.

## Tree Species

Softwoods. Pine, eastern redcedar, and cypress.

Hardwoods. Any broadleaved species.

## Forest Type

Forest type is determined only from dominant and codominant growing-stock and smaller sound trees.

Shortleaf pine. Stands in which pine comprises at least 25 percent of the trees.

Cedar. Stands in which eastern redcedar comprises at least 25 percent of the trees.

Bottomland hardwood. Stands in which bottomland hardwoods and cypress comprise 76 percent or more of the trees.

Upland hardwood. Stands containing no pine, in which upland hardwoods comprise 76 percent or more of the trees.

Upland hardwood-pine. Stands classifiable as upland hardwood but containing some pine.

## Class of Timber

Growing stock. Sawlog growing stock is the sawlog portions of sawlog trees. Total growing stock includes sawlog growing stock, and upper stems of softwood sawlog trees and entire stems of cordwood trees to a minimum diameter of 4 inches inside bark.

Sawlog tree. A live, merchantable softwood 9.0 inches or larger in d.b.h., or a live, merchantable hardwood 11.0 inches or larger in d.b.h. To be merchantable, the tree must have at least a merchantable 12-foot butt log or 50 percent of its gross volume in merchantable logs.

Cordwood tree. A live tree 5.0 inches or larger in d.b.h., but smaller than sawlog size, which would become a sawlog tree if it should grow to sawlog size.

Cull tree. A live tree 5.0 inches or larger in d.b.h., which because of decay or sound defect fails to meet the specifications for a cordwood or sawlog tree.

Tops and limbs. Upper stems and limbs of hardwood sawlog trees between the top sawlog and a minimum diameter of 4 inches inside bark.

## Stand-Size Class

Large saw timber. Stands having a net volume of at least 1,500 board feet per acre in sawlog trees and at least half of this volume in softwoods 15.0 inches d.b.h. and larger, and hardwoods 17.0 inches d.b.h. and larger.

Small saw timber. Stands which do not meet the specifications for large saw timber but which do contain a net volume of at least 1,500 board feet per acre in sawlog trees.

Cordwood. Stands below saw-timber specifications, with at least 10 percent of the growing space occupied by growing stock, and with at least 5 percent of the growing space occupied by cordwood trees.

Seedling and sapling. Stands below saw-timber and cordwood specifications, in which at least 40 percent of the growing space is occupied by growing stock and smaller sound trees of commercial species, but with less than 10 percent of the space occupied by growing stock.

Restocking and denuded. Commercial forest land which does not qualify for any other stand-size class.

## Tree Stocking

Degree of stocking is determined by the ratio of the actual number of trees in the stand to the number of trees of the same size required to occupy the site fully. Under this criterion, stands are well stocked when the percentage of full stocking is 70 or above, partially stocked when the percentage is 40 to 69, poorly stocked when the percentage is 10 to 39, and nonstocked when the percentage is under 10.

## Volume and Basal Area

Sawlog volume. Net volume in merchantable sawlogs in sawlog trees, measured by the International 1/4-inch log rule.

Total volume. Volume of sound, usable wood in stems of softwoods and stems and branches of hardwoods between stump and minimum top diameter of 4 inches inside bark, measured in cubic feet.

Basal area. Cross-sectional area of trees at breast height, measured in square feet.

## Diameter

D.b.h. (diameter breast high). Tree diameter in inches, outside bark, measured at 4½ feet above ground.

Diameter class. Each 2-inch diameter class includes diameters 1.0 inch below and 0.9 inch above the stated midpoint. E.g., the 12-inch class includes trees 11.0 up to and including 12.9 inches.

## Growth

Current annual net growth. A forecast of the average annual increase in the reported growing stock over a decade if no cutting should take place, allowing for normal tree mortality due to suppression, fire, windthrow, and other causes.

## Log and Tree Grade

Tree grades for softwoods:

Grade 1 (smooth trees). Not less than 20 feet of clear bole and at least 40 percent of the merchantable length clear of limbs and knots in sections not less than 8 feet in length.

Grade 2 (limby trees). Not less than 12 feet of clear bole and 25 to 39 percent of the merchantable length clear of limbs and knots in sections not less than 8 feet in length.

Grade 3 (rough trees). Merchantable trees below grade 2 specifications.

Log grades for hardwoods:[1]

Grade 1. Smooth, generally clear logs which yield at least one-half of their volume in higher grades of lumber.

Grade 2. Logs of average clearness and medium size which yield from one-third to one-half of their volume in higher grades of lumber.

Grade 3. Small logs or logs of less than average clearness which yield less than one-third of their volume in higher grades of lumber, or sound logs with coarse defects which make them suitable only for ties and timbers.

## Stand Quality

Fair and better. A stand in which grade 2 or better hardwood logs or softwood trees are present.

Poor. A stand in which no grade 2 hardwood logs or softwood trees are present.

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[1] For external specifications of log grades used, see "Interim Sawlog Grades for Southern Hardwoods," Southern Forest Experiment Station, 9 pp., January 1948.

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# PULPWOOD PRODUCTION
## IN SOUTHERN FOREST SURVEY TERRITORY, 1947

By
William S. Stover and A.L. Tofte

A PROGRESS REPORT OF THE SOUTHERN FOREST SURVEY
William A. Duerr, In Charge

SOUTHERN FOREST EXPERIMENT STATION
Chas. A. Connaughton, Director
New Orleans, La.

## THE SOUTHERN FOREST SURVEY

The Southern Forest Survey, an activity of the Southern Forest Experiment Station, covers the seven States of the Station's territory--Alabama, Arkansas, Louisiana, Mississippi, Oklahoma, Tennessee, and Texas. This Survey is a part of the nation-wide Forest Survey authorized by the McSweeney-McNary Forest Research Act of 1928. Its fivefold purpose is (1) to take inventory of the supply of standing timber and other forest products; (2) to ascertain the rate at which this supply is being increased through growth; (3) to determine the rate at which this supply is being diminished through industrial and local use, and by fire, insects, disease, and other agencies; (4) to estimate the present requirements and the probable future trend in the requirements for timber and other forest products; and (5) to correlate these findings with existing and anticipated economic conditions, in order that policies may be formulated for the effective use of lands suitable for forest production.

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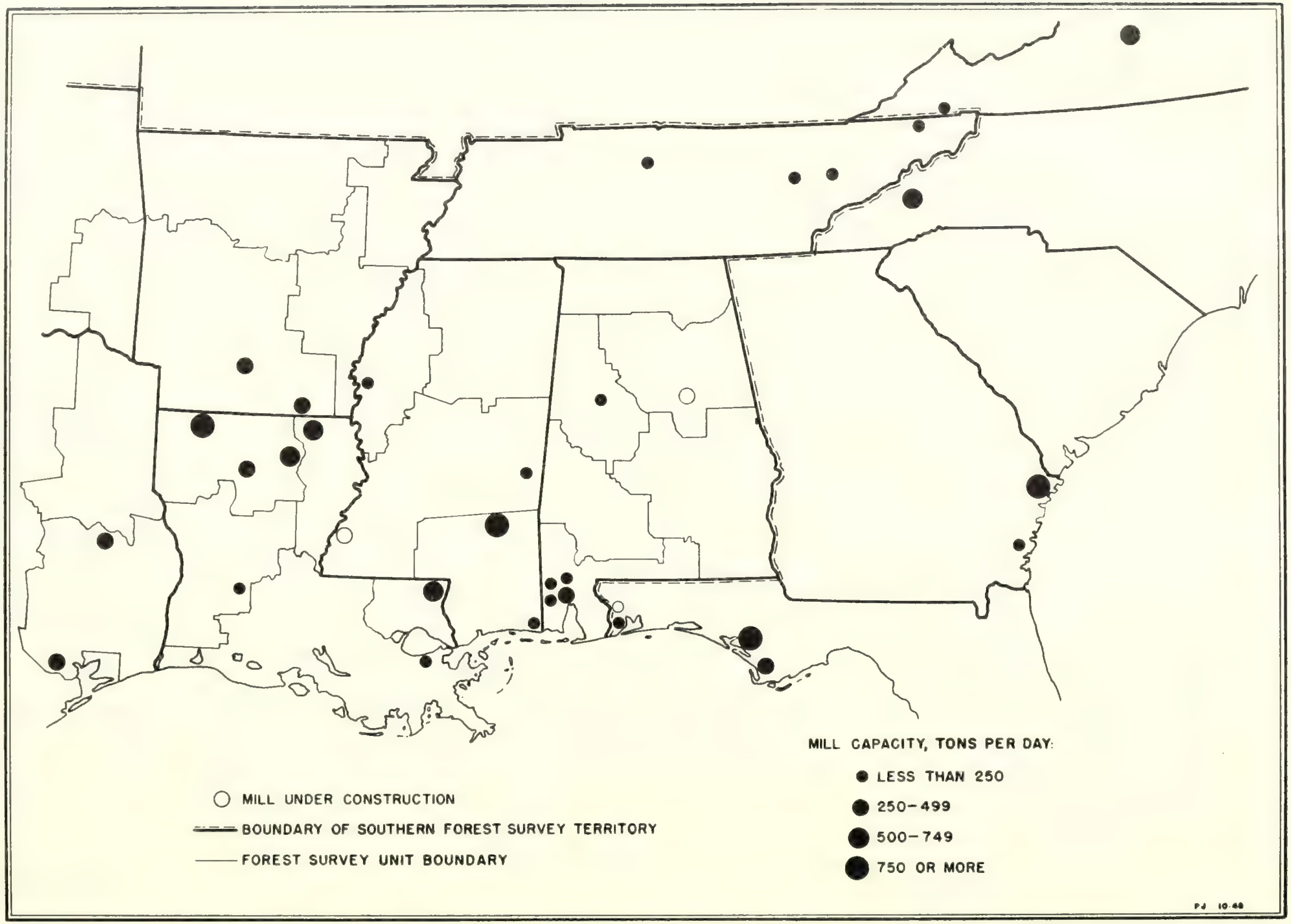

MILL CAPACITY, TONS PER DAY:
● LESS THAN 250
● 250-499
● 500-749
● 750 OR MORE
○ MILL UNDER CONSTRUCTION
BOUNDARY OF SOUTHERN FOREST SURVEY TERRITORY
FOREST SURVEY UNIT BOUNDARY
PJ 10-48

Figure 1.--Pulp mills drawing wood from Southern Forest Survey territory, 1947.

# PULPWOOD PRODUCTION IN SOUTHERN FOREST SURVEY TERRITORY, 1947

By William S. Stover and A. L. Tofte
Southern Forest Experiment Station

1947 pulpwood production in the seven States of Southern Forest Survey territory was 4,406,000 cords, an increase of 6.9 percent over 1946. The year 1947 saw a continuation of the rise in pulpwood production that began more than a decade ago. Pine accounted for 3,914,100 cords, or 89 percent of production; hardwood for 491,900 cords, or 11 percent (table 1). Largest output among the seven States was in Mississippi, where 1,279,100 cords were produced. Louisiana, Alabama, Texas, Arkansas, Tennessee, and Oklahoma followed in the order named1/.

In addition to pulpwood produced from standing timber, 5,320 cords of slabwood and 13,070 cords of veneer cores were used by pulp mills.

The pine pulpwood included all species of southern pines. Among the hardwoods, sweetgum and blackgum accounted for a major part of production, with lesser amounts of cottonwood, willow, and other species. In Tennessee, 50,787 cords were produced from dead chestnut.

The pulpwood produced in Southern Forest Survey territory in 1947 went to 32 different pulp mills. Of these, 24 mills were located within the territory and 8 outside--in Florida, Georgia, North Carolina, and Virginia (figure 1).

During 1948 four new pulp mills have gone into operation--one at Natchez, Mississippi, in Southern Forest Survey territory; and one at Pensacola, Florida, and two at Macon, Georgia, outside the territory. An additional mill is under construction at Childersburg, Alabama, and plans for two more mills have been announced.

---

1/ For a discussion of pulpwood production and mill capacity trends over earlier years, see: "Pulpwood Production and Use in Southern Forest Survey Territory, 1946," by William S. Stover. Southern Forest Experiment Station Forest Survey Release 56.

Table 1.--Pulpwood production in Southern Forest Survey territory, 1946 and 1947

| State | 1946 | | | 1947 | | | Change | | |
|---|---|---|---|---|---|---|---|---|---|
| | Pine | Hard-wood | Total | Pine | Hard-wood | Total | Pine | Hard-wood | Total |
| | - - - - | Thousand cords | - - - | | | | - | Percent | - |
| Ala. | 731.2 | 25.2 | 756.4 | 749.4 | 28.3 | 777.7 | (1/) | (1/) | +2.8 |
| Ark. | 511.5 | 65.6 | 577.1 | 541.7 | 54.9 | 596.6 | (1/) | (1/) | +3.4 |
| La. | 766.1 | 20.9 | 787.0 | 842.5 | 27.8 | 870.3 | (1/) | (1/) | +10.6 |
| Miss. | 983.9 | 254.3 | 1,238.2 | 1,041.0 | 238.1 | 1,279.1 | (1/) | (1/) | +3.3 |
| Okla. | 13.3 | ... | 13.3 | 29.9 | ... | 29.9 | (1/) | (1/) | +124.8 |
| Tenn. | 30.7 | 104.8 | 135.5 | 42.4 | 98.9 | 141.3 | (1/) | (1/) | +4.3 |
| Texas | 594.3 | 21.7 | 616.0 | 667.2 | 43.9 | 711.1 | (1/) | (1/) | +15.4 |
| All States | 3,631.0 | 492.5 | 4,123.5 | 3,914.1 | 491.9 | 4,406.0 | +7.7 | -0.1 | +6.9 |

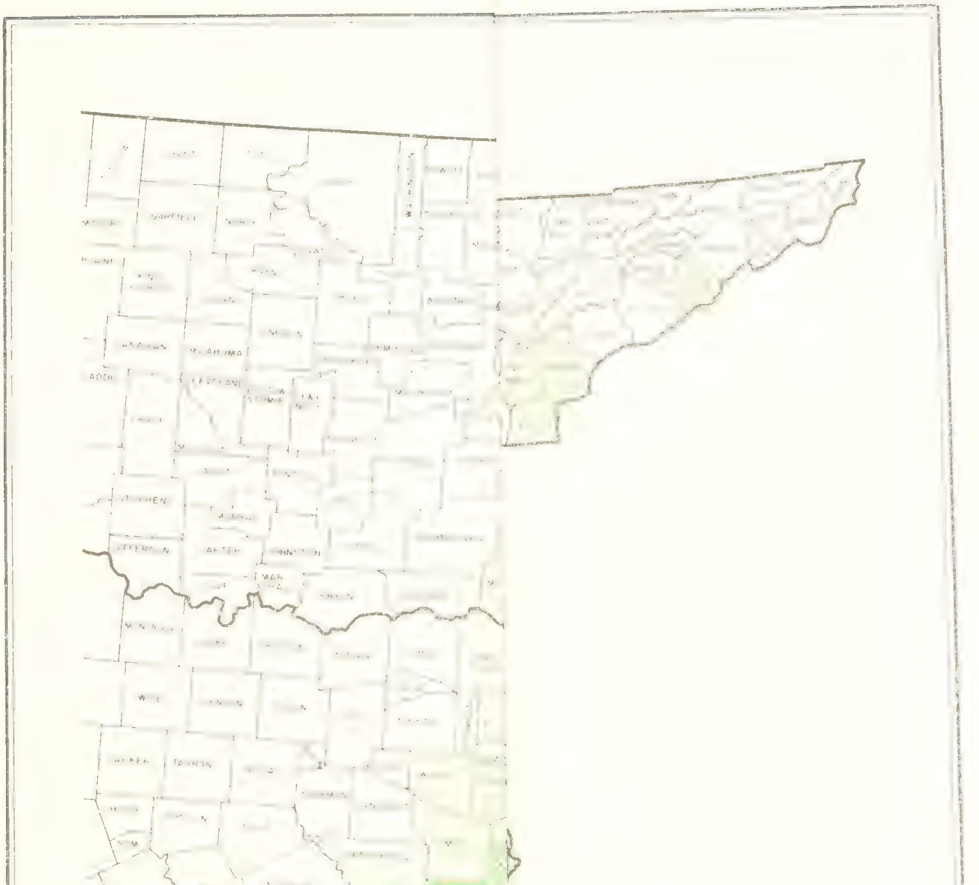
1/ Species percentage changes for individual States are in the main of small importance.

Approximately one-third of the pulpwood produced in the territory moved in interstate commerce. Mississippi, Arkansas, and Texas were the principal pulpwood exporting States; Louisiana and Tennessee, the principal importing States. Production by county is shown in figure 2 and in tables 2 to 8.

A greater part of the pulpwood from the territory was produced within an airline radius of 150 miles from the mills to which it was delivered. Individual mill-drawing territories varied considerably, however, according to the timber supply and its ownership, transportation facilities, competition with other timber users, and wood procurement policies. The bulk of the wood moved by common-carrier railroad and truck; but there was some barge movement along the Gulf Coast and on the Mississippi, Tombigbee, and Black Warrior Rivers.

Data on 1947 pulpwood production in this release are based on reports from the 32 pulp mills drawing wood from Southern Forest Survey territory and on Louisiana and Mississippi severance-tax data. County data are based on county or shipping-point information furnished by 30 mills and on severance-tax data. The county data are only approximate, but totals for groups of counties should have little error.

All volumes are in standard cords (128 cubic feet) of rough wood, bark included.


CORDS
9
4,999
9,999
-19,999
0-39,999
0 & OVER
OKLAHOMA
JEFFERSON
CARTER
JOHNSTON
WISE
LIMESTONE
WILLIAMSON
MILAM
TRAVIS
BASTROP
FAYETTE
AUSTIN
CALDWELL
LAVACA
DE WITT
JACKSON
WHARTON
FORT BEND
BRAZORIA

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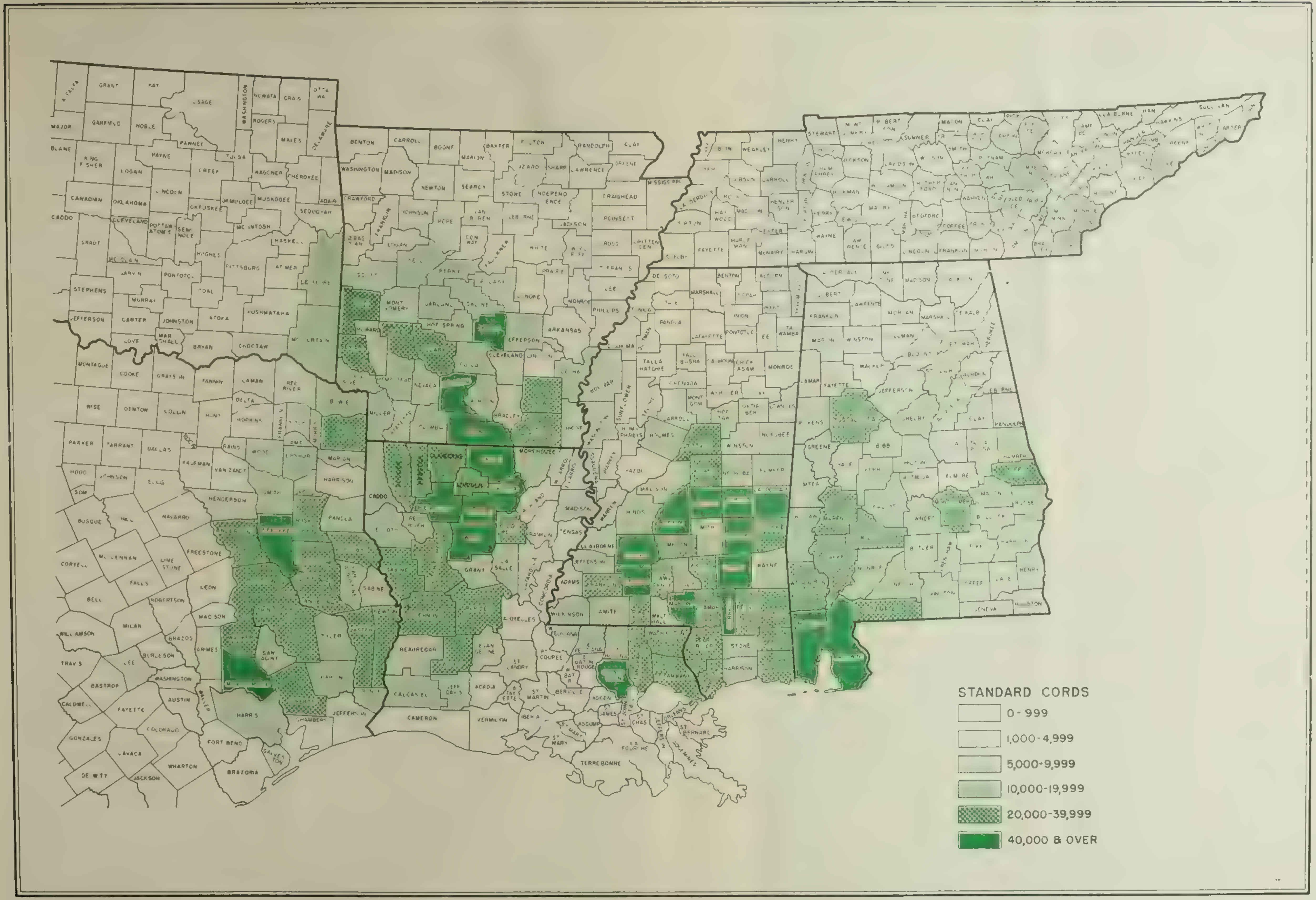

Figure 2.--Pulpwood production by county in Southern Forest Survey territory, 1947.

Table 2.--Pulpwood production in Alabama, 1947

| County | Pine | Hardwood | Total |
|---|---|---|---|
| | - - - - Standard cords - - - - | | |
| Autauga | 2,992 | ... | 2,992 |
| Baldwin | 139,943 | ... | 139,943 |
| Barbour | 5,045 | ... | 5,045 |
| Bibb | 8,146 | 560 | 8,706 |
| Blount | 4,572 | ... | 4,572 |
| Bullock | 6,929 | ... | 6,929 |
| Butler | 9,048 | ... | 9,048 |
| Calhoun | 550 | ... | 550 |
| Chambers | 12,125 | ... | 12,125 |
| Cherokee | 1,332 | 56 | 1,388 |
| Chilton | 7,548 | 1,120 | 8,668 |
| Choctaw | 11,803 | ... | 11,803 |
| Clarke | 20,264 | 1,120 | 21,384 |
| Clay | 9,243 | ... | 9,243 |
| Cleburne | ... | ... | ... |
| Coffee | 8,613 | ... | 8,613 |
| Colbert | 168 | ... | 168 |
| Conecuh | 10,873 | ... | 10,873 |
| Coosa | 3,506 | ... | 3,506 |
| Covington | 9,741 | ... | 9,741 |
| Crenshaw | 5,576 | ... | 5,576 |
| Cullman | ... | ... | ... |
| Dale | 1,887 | ... | 1,887 |
| Dallas | 12,978 | ... | 12,978 |
| De Kalb | 198 | ... | 198 |
| Elmore | 134 | ... | 134 |
| Escambia | 20,406 | ... | 20,406 |
| Etowah | 2,103 | ... | 2,103 |
| Fayette | 2,031 | 2,520 | 4,551 |
| Franklin | 512 | ... | 512 |
| Geneva | 9,834 | ... | 9,834 |
| Greene | 6,215 | 1,120 | 7,335 |
| Hale | 7,553 | 980 | 8,533 |
| Henry | 6,804 | 65 | 6,869 |
| Houston | 4,682 | ... | 4,682 |
| Jackson | 10 | ... | 10 |
| Jefferson | 1,524 | ... | 1,524 |
| Lamar | 7,383 | 1,680 | 9,063 |
| Lauderdale | ... | ... | ... |
| Lawrence | ... | ... | ... |

Table 2.--Pulpwood production in Alabama, 1947 (Continued)

| County | Pine | Hardwood | Total |
|---|---|---|---|
| | - - - - | Standard cords | - - - - |
| Lee | 23,211 | ... | 23,211 |
| Limestone | ... | ... | ... |
| Lowndes | 18,929 | ... | 18,929 |
| Macon | 11,716 | 588 | 12,304 |
| Madison | ... | 210 | 210 |
| Marengo | 27,728 | ... | 27,728 |
| Marion | 1,203 | ... | 1,203 |
| Marshall | 69 | ... | 69 |
| Mobile | 100,372 | 5,460 | 105,832 |
| Monroe | 16,639 | ... | 16,639 |
| Montgomery | 31,882 | ... | 31,882 |
| Morgan | ... | 210 | 210 |
| Perry | 9,338 | 1,400 | 10,738 |
| Pickens | 9,369 | ... | 9,369 |
| Pike | 8,697 | ... | 8,697 |
| Randolph | 3,447 | ... | 3,447 |
| Russell | 13,002 | 1,588 | 14,590 |
| Saint Clair | 5,070 | ... | 5,070 |
| Shelby | 12,428 | ... | 12,428 |
| Sumter | 6,912 | 700 | 7,612 |
| Talladega | 2,479 | ... | 2,479 |
| Tallapoosa | 5,081 | ... | 5,081 |
| Tuscaloosa | 27,470 | 560 | 28,030 |
| Walker | 267 | ... | 267 |
| Washington | 27,159 | 8,400 | 35,559 |
| Wilcox | 24,448 | ... | 24,448 |
| Winston | 206 | ... | 206 |
| Total | 749,393 | 28,337 | 777,730 |

Table 3.--Pulpwood production in Arkansas, 1947

| County | Pine | Hardwood | Total |
|---|---|---|---|
| | - - - - | Standard cords | - - - - - |
| Arkansas | ... | ... | ... |
| Ashley | 31,800 | 3,270 | 35,070 |
| Baxter | 797 | ... | 797 |
| Benton | ... | ... | ... |
| Boone | 35 | ... | 35 |
| Bradley | 6,526 | ... | 6,526 |
| Calhoun | 13,425 | 193 | 13,618 |
| Carroll | ... | ... | ... |
| Chicot | ... | 8,428 | 8,428 |
| Clark | 24,740 | 1,894 | 26,634 |
| Clay | ... | ... | ... |
| Cleburne | ... | ... | ... |
| Cleveland | 4,334 | ... | 4,334 |
| Columbia | 14,437 | ... | 14,437 |
| Conway | ... | ... | ... |
| Craighead | ... | ... | ... |
| Crawford | 33 | ... | 33 |
| Crittenden | ... | ... | ... |
| Cross | ... | ... | ... |
| Dallas | 15,049 | 774 | 15,823 |
| Desha | ... | 13,244 | 13,244 |
| Drew | 20,285 | 6,208 | 26,493 |
| Faulkner | 559 | ... | 559 |
| Franklin | ... | ... | ... |
| Fulton | ... | ... | ... |
| Garland | 17,519 | ... | 17,519 |
| Grant | 39,453 | 1,256 | 40,709 |
| Greene | ... | ... | ... |
| Hempstead | 12,185 | 148 | 12,333 |
| Hot Spring | 14,517 | 759 | 15,276 |
| Howard | 6,544 | 209 | 6,753 |
| Independence | ... | ... | ... |
| Izard | 1,046 | ... | 1,046 |
| Jackson | ... | ... | ... |
| Jefferson | 15,790 | ... | 15,790 |
| Johnson | 1,475 | ... | 1,475 |
| Lafayette | 8,079 | ... | 8,079 |
| Lawrence | ... | ... | ... |
| Lee | ... | ... | ... |
| Lincoln | 351 | 544 | 895 |

Table 3.--Pulpwood production in Arkansas, 1947 (Continued)

| County | Pine | Hardwood | Total |
|---|---|---|---|
| | - - - - Standard cords - - - - | | |
| Little River | 17,017 | 477 | 17,494 |
| Logan | 1,504 | ... | 1,504 |
| Lonoke | ... | ... | ... |
| Madison | ... | ... | ... |
| Marion | ... | ... | ... |
| Miller | 14,432 | 595 | 15,027 |
| Mississippi | ... | ... | ... |
| Monroe | 78 | ... | 78 |
| Montgomery | 9,316 | 428 | 9,744 |
| Nevada | 9,354 | 142 | 9,496 |
| Newton | ... | ... | ... |
| Ouachita | 46,932 | 1,232 | 48,164 |
| Perry | 15,163 | 266 | 15,429 |
| Phillips | 17 | 2,408 | 2,425 |
| Pike | 27,928 | 1,708 | 29,636 |
| Poinsett | ... | ... | ... |
| Polk | 29,125 | ... | 29,125 |
| Pope | 2,014 | ... | 2,014 |
| Prairie | ... | ... | ... |
| Pulaski | 8,797 | 856 | 9,653 |
| Randolph | ... | ... | ... |
| Saint Francis | ... | ... | ... |
| Saline | 18,815 | 900 | 19,715 |
| Scott | 6,008 | ... | 6,008 |
| Searcy | ... | ... | ... |
| Sebastian | 146 | ... | 146 |
| Sevier | 21,074 | ... | 21,074 |
| Sharp | ... | ... | ... |
| Stone | ... | ... | ... |
| Union | 48,744 | 8,866 | 57,610 |
| Van Buren | 163 | ... | 163 |
| Washington | ... | ... | ... |
| White | 255 | ... | 255 |
| Woodruff | ... | ... | ... |
| Yell | 15,788 | 100 | 15,888 |
| Total | 541,649 | 54,905 | 596,554 |

Table 4.--Pulpwood production in Louisiana, 1947

| Parish | Pine | Hardwood | Total |
|---|---|---|---|
| | - - - - | Standard cords | - - - - |
| Acadia | 807 | ... | 807 |
| Allen | 27,441 | 1,803 | 29,244 |
| Ascension | 918 | ... | 918 |
| Assumption | ... | ... | ... |
| Avoyelles | ... | ... | ... |
| Beauregard | 7,280 | ... | 7,280 |
| Bienville | 58,427 | 1,400 | 59,827 |
| Bossier | 26,506 | ... | 26,506 |
| Caddo | 11,430 | ... | 11,430 |
| Calcasieu | 14,828 | ... | 14,828 |
| Caldwell | 26,869 | 160 | 27,029 |
| Cameron | ... | ... | ... |
| Catahoula | 4,229 | ... | 4,229 |
| Claiborne | 38,379 | 697 | 39,076 |
| Concordia | ... | ... | ... |
| De Soto | 11,733 | ... | 11,733 |
| East Baton Rouge | 35 | ... | 35 |
| East Carroll | ... | 1,856 | 1,856 |
| East Feliciana | 11,331 | 106 | 11,437 |
| Evangeline | 7,813 | 200 | 8,013 |
| Franklin | ... | ... | ... |
| Grant | 16,889 | 773 | 17,662 |
| Iberia | ... | ... | ... |
| Iberville | ... | ... | ... |
| Jackson | 56,538 | 113 | 56,651 |
| Jefferson | ... | ... | ... |
| Jefferson Davis | 6,663 | ... | 6,663 |
| Lafayette | ... | ... | ... |
| Lafourche | ... | ... | ... |
| La Salle | 14,134 | 336 | 14,470 |
| Lincoln | 19,855 | 1,890 | 21,745 |
| Livingston | 55,837 | 2,753 | 58,590 |
| Madison | ... | 6,327 | 6,327 |
| Morehouse | 15,690 | 997 | 16,687 |
| Natchitoches | 28,766 | 38 | 28,804 |
| Orleans | ... | ... | ... |
| Ouachita | 42,942 | 258 | 43,200 |
| Plaquemines | ... | ... | ... |
| Pointe Coupee | ... | ... | ... |
| Rapides | 34,535 | 48 | 34,583 |

Table 4.--Pulpwood production in Louisiana, 1947 (Continued)

| Parish | Pine | Hardwood | Total |
|---|---|---|---|
| | - - - - Standard cords - - - - | | |
| Red River | 14,236 | ... | 14,236 |
| Richland | ... | ... | ... |
| Sabine | 28,019 | ... | 28,019 |
| Saint Bernard | ... | ... | ... |
| Saint Charles | ... | ... | ... |
| Saint Helena | 12,990 | 258 | 13,248 |
| Saint James | ... | ... | ... |
| Saint John the Baptist | ... | ... | ... |
| Saint Landry | 1,823 | ... | 1,823 |
| Saint Martin | ... | ... | ... |
| Saint Mary | ... | ... | ... |
| Saint Tammany | 28,043 | 1,166 | 29,209 |
| Tangipahoa | 35,855 | 2,019 | 37,874 |
| Tensas | ... | ... | ... |
| Terrebonne | ... | ... | ... |
| Union | 51,798 | 2,793 | 54,591 |
| Vermilion | ... | ... | ... |
| Vernon | 27,651 | ... | 27,651 |
| Washington | 26,103 | 1,296 | 27,399 |
| Webster | 28,704 | 332 | 29,036 |
| West Baton Rouge | ... | ... | ... |
| West Carroll | 4 | ... | 4 |
| West Feliciana | 1,987 | ... | 1,987 |
| Winn | 45,409 | 152 | 45,561 |
| Total | 842,497 | 27,771 | 870,268 |

Table 5.--Pulpwood production in Mississippi, 1947

| County | Pine | Hardwood | Total |
|---|---|---|---|
| | - - - - | Standard cords | - - - - |
| Adams | 4,315 | 637 | 4,952 |
| Alcorn | 138 | 4,575 | 4,713 |
| Amite | 12,638 | 1,492 | 14,130 |
| Attala | 26,051 | 5,627 | 31,678 |
| Benton | ... | ... | ... |
| Bolivar | ... | 6,337 | 6,337 |
| Calhoun | ... | ... | ... |
| Carroll | 687 | 1,259 | 1,946 |
| Chickasaw | 1,651 | ... | 1,651 |
| Choctaw | 8,415 | 3,687 | 12,102 |
| Claiborne | 4,281 | 2,625 | 6,906 |
| Clarke | 26,530 | 5,862 | 32,392 |
| Clay | 196 | 600 | 796 |
| Coahoma | ... | ... | ... |
| Copiah | 38,534 | 7,833 | 46,367 |
| Covington | 18,531 | 9,077 | 27,608 |
| De Soto | ... | ... | ... |
| Forrest | 38,126 | 8,568 | 46,694 |
| Franklin | 32,913 | 4,484 | 37,397 |
| George | 18,222 | 2,862 | 21,084 |
| Greene | 25,084 | 2,723 | 27,807 |
| Grenada | 2,245 | 592 | 2,837 |
| Hancock | 22,837 | 97 | 22,934 |
| Harrison | 11,178 | 381 | 11,559 |
| Hinds | 13,230 | 3,885 | 17,115 |
| Holmes | 14,539 | 1,369 | 15,908 |
| Humphreys | 665 | 330 | 995 |
| Issaquena | ... | 3,802 | 3,802 |
| Itawamba | ... | ... | ... |
| Jackson | 38,643 | ... | 38,643 |
| Jasper | 55,891 | 11,263 | 67,154 |
| Jefferson | 9,306 | 3,109 | 12,415 |
| Jefferson Davis | 11,582 | 3,617 | 15,199 |
| Jones | 39,850 | 10,431 | 50,281 |
| Kemper | 11,805 | 991 | 12,796 |
| Lafayette | ... | 56 | 56 |
| Lamar | 27,443 | 4,409 | 31,852 |
| Lauderdale | 38,541 | 1,729 | 40,270 |
| Lawrence | 24,724 | 8,415 | 33,139 |
| Leake | 22,169 | 3,147 | 25,316 |

Table 5.--Pulpwood production in Mississippi, 1947 (Continued)

| County | Pine | Hardwood | Total |
|---|---|---|---|
| | - - - | Standard cords | - - - - |
| Lee | ... | ... | ... |
| Leflore | 39 | 2,028 | 2,067 |
| Lincoln | 36,680 | 11,956 | 48,636 |
| Lowndes | 2,123 | ... | 2,123 |
| Madison | 4,558 | 871 | 5,429 |
| Marion | 61,056 | 9,626 | 70,682 |
| Marshall | 78 | ... | 78 |
| Monroe | 802 | ... | 802 |
| Montgomery | 8,665 | 1,100 | 9,765 |
| Neshoba | 14,158 | 2,422 | 16,580 |
| Newton | 39,726 | 10,108 | 49,834 |
| Noxubee | 6,009 | 1,761 | 7,770 |
| Oktibbeha | 3,145 | 1,476 | 4,621 |
| Panola | ... | 16 | 16 |
| Pearl River | 17,639 | 3,297 | 20,936 |
| Perry | 30,835 | 8,868 | 39,703 |
| Pike | 28,353 | 6,807 | 35,160 |
| Pontotoc | 26 | 185 | 211 |
| Prentiss | ... | ... | ... |
| Quitman | ... | ... | ... |
| Rankin | 41,338 | 5,306 | 46,644 |
| Scott | 38,375 | 12,459 | 50,834 |
| Sharkey | ... | ... | ... |
| Simpson | 29,936 | 6,125 | 36,061 |
| Smith | 15,570 | 3,624 | 19,194 |
| Stone | 9,618 | 1,644 | 11,262 |
| Sunflower | ... | ... | ... |
| Tallahatchie | ... | ... | ... |
| Tate | ... | ... | ... |
| Tippah | ... | ... | ... |
| Tishomingo | 896 | 3,982 | 4,878 |
| Tunica | ... | ... | ... |
| Union | ... | ... | ... |
| Walthall | 10,580 | 1,877 | 12,457 |
| Warren | 54 | 3,802 | 3,856 |
| Washington | ... | 6,337 | 6,337 |
| Wayne | 14,892 | 2,412 | 17,304 |
| Webster | 4,329 | 537 | 4,866 |
| Wilkinson | 13,582 | 1,374 | 14,956 |
| Winston | 3,907 | 1,101 | 5,008 |
| Yalobusha | 3,022 | 1,116 | 4,138 |
| Yazoo | 74 | ... | 74 |
| Total | 1,041,025 | 238,088 | 1,279,113 |

Table 6.--Pulpwood production in Oklahoma, 1947

| County[1] | Pine | Hardwood | Total |
|---|---|---|---|
| | - - - | Standard cords | - - - - |
| Bryan | 144 | ... | 144 |
| Choctaw | 2,392 | ... | 2,392 |
| Latimer | 563 | ... | 563 |
| Le Flore | 12,835 | ... | 12,835 |
| McCurtain | 13,219 | ... | 13,219 |
| Pushmataha | 705 | ... | 705 |
| Total | 29,858 | ... | 29,858 |

[1] Counties with no pulpwood production are omitted.

Table 7.--Pulpwood production in Tennessee, 1947

| County | Pine | Hardwood | Chestnut | Total |
|---|---|---|---|---|
| | | - - - - Standard cords | - - - - | |
| Anderson | 238 | ... | ... | 238 |
| Bedford | ... | ... | ... | ... |
| Benton | ... | 1,073 | ... | 1,073 |
| Bledsoe | 1,085 | 6,120 | ... | 7,205 |
| Blount | 107 | ... | 31 | 138 |
| Bradley | 685 | 34 | ... | 719 |
| Campbell | ... | ... | 17 | 17 |
| Cannon | ... | ... | 700 | 700 |
| Carroll | ... | 2,741 | ... | 2,741 |
| Carter | ... | 280 | 367 | 647 |
| Cheatham | ... | ... | 70 | 70 |
| Chester | ... | ... | ... | ... |
| Claiborne | 204 | 73 | 3,512 | 3,789 |
| Clay | ... | ... | ... | ... |
| Cocke | 2,884 | 1,116 | 10,064 | 14,064 |
| Coffee | ... | ... | 686 | 686 |
| Crockett | ... | ... | ... | ... |
| Cumberland | 5,994 | 5,100 | 211 | 11,305 |
| Davidson | ... | ... | 200 | 200 |
| Decatur | ... | ... | ... | ... |

Table 7.--Pulpwood production in Tennessee, 1947 (Continued)

| County | Pine | Hardwood | Chestnut | Total |
|---|---|---|---|---|
| | - - - - Standard cords - - - - - | | | |
| De Kalb | ... | ... | 1,500 | 1,500 |
| Dickson | ... | ... | 98 | 98 |
| Dyer | ... | ... | ... | ... |
| Fayette | ... | ... | ... | ... |
| Fentress | ... | 3,149 | 2,909 | 6,058 |
| Franklin | ... | ... | ... | ... |
| Gibson | ... | ... | ... | ... |
| Giles | ... | ... | ... | ... |
| Grainger | 31 | ... | 15 | 46 |
| Greene | 41 | ... | 409 | 450 |
| Grundy | 173 | 1,555 | ... | 1,728 |
| Hamblen | ... | ... | 21 | 21 |
| Hamilton | 262 | 18 | 14 | 294 |
| Hancock | ... | ... | ... | ... |
| Hardeman | ... | 629 | ... | 629 |
| Hardin | ... | ... | ... | ... |
| Hawkins | 156 | ... | 660 | 816 |
| Haywood | ... | ... | ... | ... |
| Henderson | ... | 420 | ... | 420 |
| Henry | ... | 490 | ... | 490 |
| Hickman | ... | 700 | 280 | 980 |
| Houston | ... | ... | 84 | 84 |
| Humphreys | ... | ... | ... | ... |
| Jackson | ... | ... | ... | ... |
| Jefferson | 16 | ... | ... | 16 |
| Johnson | ... | 962 | 1,269 | 2,231 |
| Knox | 56 | ... | 2,265 | 2,321 |
| Lake | ... | ... | ... | ... |
| Lauderdale | ... | ... | ... | ... |
| Lawrence | ... | 4,606 | ... | 4,606 |
| Lewis | ... | 598 | 448 | 1,046 |
| Lincoln | ... | ... | 308 | 308 |
| Loudon | 131 | ... | 123 | 254 |
| McMinn | 4,884 | ... | 254 | 5,138 |
| McNairy | ... | 490 | ... | 490 |
| Macon | ... | ... | 542 | 542 |
| Madison | ... | ... | ... | ... |
| Marion | 65 | ... | ... | 65 |
| Marshall | ... | ... | ... | ... |
| Maury | ... | ... | ... | ... |

Table 7.--Pulpwood production in Tennessee, 1947 (Continued)

| County | Pine | Hardwood | Chestnut | Total |
|---|---|---|---|---|
| | - - - - Standard cords - - - - | | | |
| Meigs | ... | ... | ... | ... |
| Monroe | 14,097 | 1,250 | 2,748 | 18,095 |
| Montgomery | ... | ... | 14 | 14 |
| Moore | ... | ... | ... | ... |
| Morgan | 243 | ... | ... | 243 |
| Obion | ... | ... | ... | ... |
| Overton | 51 | 1,375 | 16 | 1,442 |
| Perry | ... | ... | ... | ... |
| Pickett | ... | ... | ... | ... |
| Polk | 9,282 | 865 | 711 | 10,858 |
| Putnam | 33 | 2,180 | 6,375 | 8,588 |
| Rhea | 543 | 2,202 | 80 | 2,825 |
| Roane | 708 | ... | 1,119 | 1,827 |
| Robertson | ... | ... | 122 | 122 |
| Rutherford | ... | ... | 238 | 238 |
| Scott | ... | ... | ... | ... |
| Sequatchie | 82 | 280 | ... | 362 |
| Sevier | ... | ... | 639 | 639 |
| Shelby | ... | ... | ... | ... |
| Smith | ... | ... | 84 | 84 |
| Stewart | ... | ... | 70 | 70 |
| Sullivan | 105 | ... | ... | 105 |
| Sumner | ... | ... | 3,290 | 3,290 |
| Tipton | ... | ... | ... | ... |
| Trousdale | ... | ... | 14 | 14 |
| Unicoi | 240 | 39 | 4,187 | 4,466 |
| Union | 17 | ... | 15 | 32 |
| Van Buren | ... | 2,033 | ... | 2,033 |
| Warren | ... | 2,960 | 42 | 3,002 |
| Washington | 34 | ... | 296 | 330 |
| Wayne | ... | ... | ... | ... |
| Weakley | ... | ... | ... | ... |
| White | ... | 4,751 | 3,514 | 8,265 |
| Williamson | ... | ... | 100 | 100 |
| Wilson | ... | ... | 56 | 56 |
| Total | 42,447 | 48,089 | 50,787 | 141,323 |

Table 8.--Pulpwood production in Texas, 1947

| County[1/] | Pine | Hardwood | Total |
|---|---|---|---|
| | - - - - | Standard cords | - - - - |
| Anderson | 27,536 | 2,701 | 30,237 |
| Angelina | 21,671 | 631 | 22,302 |
| Bastrop | 33 | 224 | 257 |
| Bowie | 10,966 | ... | 10,966 |
| Burleson | ... | 16 | 16 |
| Caldwell | ... | 69 | 69 |
| Camp | 4,816 | ... | 4,816 |
| Cass | 37,411 | 38 | 37,449 |
| Cherokee | 61,444 | 3,376 | 64,820 |
| Fayette | ... | 118 | 118 |
| Franklin | 1,922 | ... | 1,922 |
| Gregg | 6,845 | 361 | 7,206 |
| Grimes | 4,609 | 72 | 4,681 |
| Hardin | 14,219 | 323 | 14,542 |
| Harris | 7,409 | 444 | 7,853 |
| Harrison | 4,595 | ... | 4,595 |
| Henderson | 4,955 | 25 | 4,980 |
| Houston | 28,568 | 2,561 | 31,129 |
| Jasper | 32,565 | 5,188 | 37,753 |
| Jefferson | 1,786 | ... | 1,786 |
| Lee | ... | 1,611 | 1,611 |
| Leon | ... | 20 | 20 |
| Liberty | 19,803 | 2,033 | 21,836 |
| Madison | 137 | ... | 137 |
| Marion | 13,723 | 38 | 13,761 |
| Montgomery | 60,146 | 1,608 | 61,754 |
| Morris | 9,338 | ... | 9,338 |
| Nacogdoches | 34,432 | 3,731 | 38,163 |
| Newton | 23,101 | 1,664 | 24,765 |
| Orange | 17,100 | 156 | 17,256 |
| Panola | 6,033 | 226 | 6,259 |
| Polk | 27,327 | 5,835 | 33,162 |
| Red River | 1,748 | 53 | 1,801 |
| Rusk | 24,185 | 1,853 | 26,038 |
| Sabine | 7,800 | 442 | 8,242 |
| San Augustine | 16,133 | 45 | 16,178 |
| San Jacinto | 14,941 | 672 | 15,613 |
| Shelby | 21,200 | 933 | 22,133 |
| Smith | 7,797 | 402 | 8,199 |
| Titus | 5,773 | ... | 5,773 |
| Trinity | 25,700 | 1,740 | 27,440 |
| Tyler | 16,342 | 753 | 17,095 |
| Upshur | 13,152 | ... | 13,152 |
| Walker | 22,367 | 3,896 | 26,263 |
| Wood | 7,573 | ... | 7,573 |
| Total | 667,201 | 43,858 | 711,059 |

[1/] Counties with no pulpwood production are omitted.

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# FORESTST STATISTICS FOR
# MISSISSIPPI

A REPORT OF THE SOUTHERN FOREST SURVEY
William A. Duerr, In Charge

SOUTHERN FOREST EXPERIMENT STATION
Chas. A. Connaughton, Director
New Orleans, La.

# THE SOUTHERN FOREST SURVEY

The Southern Forest Survey, an activity of the Southern Forest Experiment Station, covers the seven States of the Station's territory--Alabama, Arkansas, Louisiana, Mississippi, Oklahoma, Tennessee, and Texas. This Survey is a part of the nation-wide Forest Survey authorized by the McSweeney-McNary Forest Research Act of 1928. Its five-fold purpose is (1) to take inventory of the supply of standing timber and other forest products; (2) to ascertain the rate at which this supply is being increased through growth; (3) to determine the rate at which this supply is being diminished through industrial and local use, and by fire, insects, disease, and other agencies; (4) to estimate the present requirements and the probable future trend in the requirements for timber and other forest products; and (5) to correlate these findings with existing and anticipated economic conditions, in order that policies may be formulated for the effective use of lands suitable for forest production.

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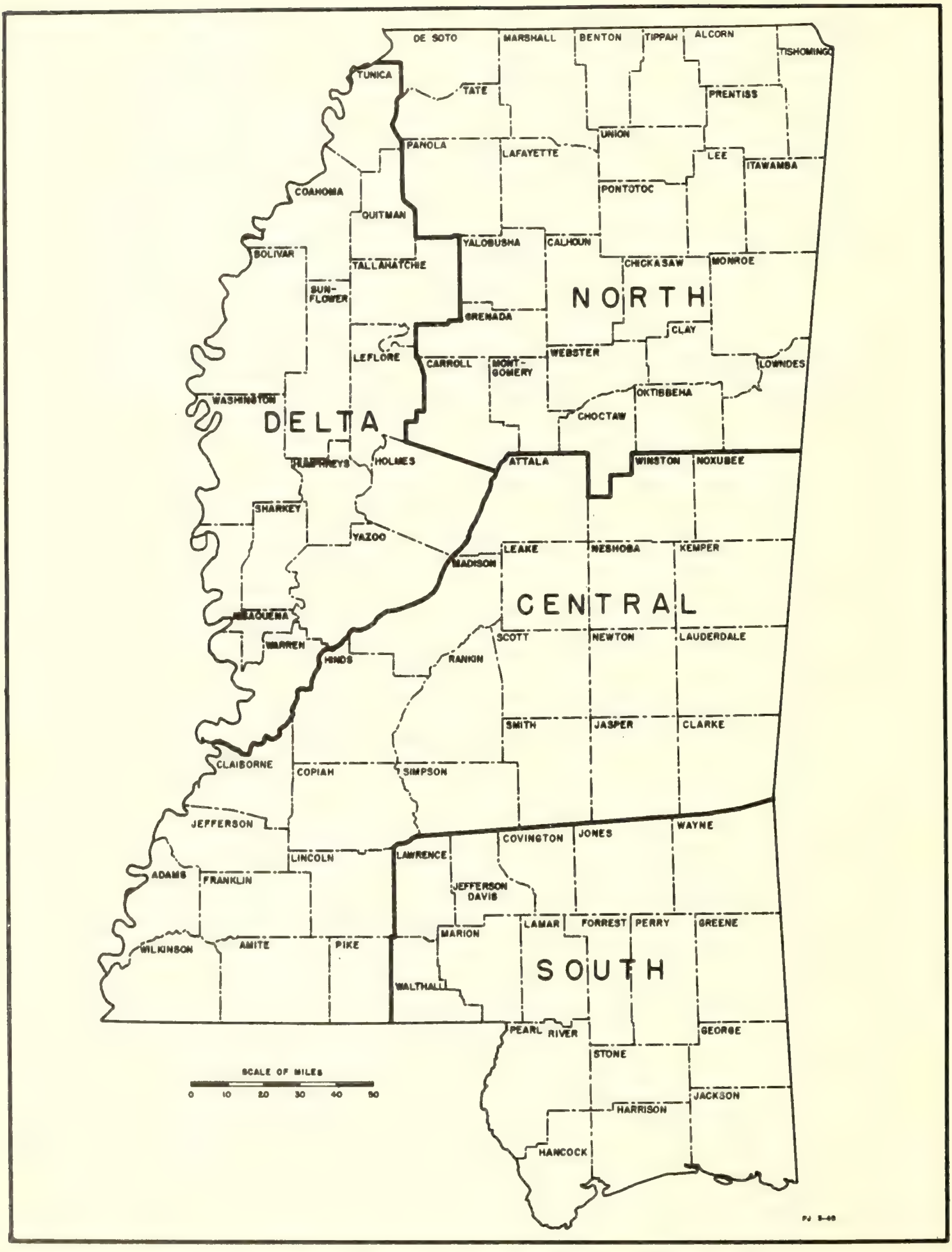

Figure 1.--Forest Survey regions in Mississippi.

# FOREST STATISTICS FOR MISSISSIPPI

This report summarizes the data on forest-land acreage and on standing-timber volume, growth, and drain collected by the Southern Forest Survey in Mississippi in 1946-48. Also presented are some comparisons between the findings of this, the second Forest Survey of the State, and the first Survey, made in 1932-35. An average of 14 years elapsed between the two Surveys, though the interval varied for the different regions of the State (for map, see figure 1):

| Survey region | First survey | | Second survey | | Interval in years |
|---|---|---|---|---|---|
| | Started | Finished | Started | Finished | |
| North | Feb. '32 | Apr. '33 | Mar. '48 | June '48 | 16 |
| Central | Dec. '34 | Apr. '35 | Nov. '46 | Oct. '47 | 12 |
| South | Aug. '34 | Jan. '35 | May '48 | July '48 | 14 |
| Delta | Apr. '32 | Aug. '32 | July '47 | Oct. '47 | 15 |
| State | Feb. '32 | Apr. '35 | Nov. '46 | July '48 | 14 |

These dates apply to the acreage, volume, and growth estimates. Drain records on the second Survey were taken for the year 1946.

## Highlights

1. Of 30.3 million acres of land in Mississippi, 16.5 million (54 percent) are forest land. Forest-land acreage has increased 2 percent in the past 14 years. The principal regional changes have been a 16 percent increase in North Mississippi, and a 9 percent reduction in the Delta.

2. Forests of the pine types account for 45 percent of the total forest acreage. The area of these pine forests has fallen off about a fourth in 14 years. Bottomland hardwood forests have been reduced 16 percent; but upland hardwood forests, now amounting to 34 percent of all forests, have more than doubled. The notable extension of the upland hardwood forests has occurred chiefly because of the general preference of wood users for pine and the aggressiveness of hardwoods in many areas.

3. Saw-timber stands comprise 36 percent of the forest acreage; cordwood stands, 39 percent; seedling and sapling stands, 14 percent; and restocking and denuded areas, 11 percent. In the longleaf-slash pine type, whose stands are most heavily weighted toward small sizes, 31 percent of the acreage is restocking or denuded.

4. Basal area of all growing stock averages 68 square feet per acre in saw-timber stands, 37 square feet in cordwood stands, and 14 square feet in other stands. A fourth of the forest has less than 40 percent of reasonably full stocking, and two-thirds of it is less than 70 percent stocked. Cull trees occupy much of the ground not utilized by growing stock--24 percent of the total basal area is in cull trees.

5. Total growing stock is 7.7 billion cubic feet--466 cubic feet per acre of forest land. Hardwood makes up 57 percent of this total. Hardwood predominates in all regions of the State except South Mississippi, where it is one-third of the total. Of all the growing stock, nearly half is in the Central region. Three-tenths of the growing stock in the State is in trees of less than sawlog size.

6. The total growing stock is 10 percent less than it was 14 years ago. Softwood volume is down 20 percent; the hardwood total is essentially unchanged. Among softwoods, loblolly and shortleaf pines are down about 30 percent, while longleaf and slash pines are up more than 40 percent. Among hardwoods, the oaks have increased substantially, but most other species have decreased.

7. The number of small growing-stock trees has increased in 14 years; the number of large trees has decreased. In softwoods, trees of 6-inch diameter are up one-fifth in numbers, 8-inch trees are little changed, and 10-inch and larger trees are down, the percentage decline increasing steadily with tree diameter to more than 60 percent in 26-inch and larger trees. In hardwoods, the story is much the same as in softwoods, except that the breaking point occurs at 16 inches instead of 8 inches, while smaller trees have increased more aggressively and larger trees declined less rapidly.

8. Total growing stock in North Mississippi is down 26 percent since the first Forest Survey; in the Delta, down 18 percent; in Central Mississippi, down 8 percent; and in South Mississippi, up 11 percent.

9. In addition to growing stock, there are 1.6 billion cubic feet of sound, usable wood in tops and limbs of hardwood sawlog trees, and 2.3 billion in cull trees, mostly hardwood. The volume of hardwood cull trees has increased 22 percent in the past 14 years.

10. Sawlog growing stock totals 29.3 billion board feet and averages 1,776 board feet per acre of forest land. Hardwoods account for 58 percent of the total: red oaks, 14 percent; sweetgum, 11 percent; white oaks, 9 percent; other hardwoods, 24 percent. Softwoods make up 42 percent of the total: loblolly pine, 20 percent; shortleaf pine, 9 percent; other softwoods, 13 percent.

11. The sawlog growing stock is concentrated in the smaller diameter trees. Of the softwood total, 43 percent is in 10- and 12-inch trees, 43 percent in 14-, 16-, and 18-inch trees, and 14 percent in larger trees. Of the hardwood total, two-thirds is in trees smaller than 20 inches.

12. The sawlog growing stock is 24 percent less than it was 14 years ago. Softwood sawlog volume has fallen off 29 percent; hardwood, 20 percent. In North Mississippi, sawlog growing stock is down 40 percent; in the Delta, down 29 percent; in the Central region, down 25 percent; and in South Mississippi, up 3 percent.

13. Of the entire hardwood sawlog volume, two-thirds is in grade 3 logs. A fourth is in grade 3 logs in stands where no higher-grade logs occur. Of the softwood sawlog growing stock, 62 percent is in grade 3 trees.

14. Drain on total growing stock was 554 million cubic feet in 1946, four-fifths of it in trees of sawlog size. This drain was about equally divided between hardwood and softwood species. Cutting of sawlogs accounted for 51 percent of the total drain; pulpwood and fuel wood each about 15 percent; hewn ties, 5 percent; and all other items, 14 percent.

15. Drain on sawlog growing stock was 2.5 billion board feet in 1946. Well over half of this drain occurred in Central Mississippi.

16. Current annual growth of the total growing stock averages 32 cubic feet per acre of forest land. Nearly two-thirds of total growth is in hardwood trees, and more than two-thirds of this is in trees of cordwood size. Growth of the sawlog growing stock averages 110 board feet per acre per year.

17. Private holdings include nine-tenths of the forest land. Farmers own 42 percent; and businessmen, housewives, wage earners, and professional workers, 31 percent. Forest-products manufacturers hold most of the remaining private forest resources: 14 percent of the forest acreage and 18 percent of the timber growing stock.

18. These are the major changes by Survey region in forest-land area and growing-stock volume since the Forest Survey of 1932-35:

| Survey region | Forest land area | Total growing stock | Sawlog growing stock |
|---|---|---|---|
| | | Percent | |
| North | +16 | -26 | -40 |
| Central | + 2 | - 8 | -25 |
| South | - 3 | +11 | + 3 |
| Delta | - 9 | -18 | -29 |
| State | + 2 | -10 | -24 |

## The Forest Resource

Some 16.5 million acres out of a total of about 30.3 million in Mississippi--54 percent--are forest land [1] (table 1). Forest-land acreage has increased 2 percent in the 14 years since the first Forest Survey of the State. [2]

Table 1.--Land use in Mississippi

| Use | Area |
|---|---|
| | Thousand acres |
| Forest | 16,532.5 |
| Farm land not in forest | 12,669.5 |
| Other nonforest | 1,146.8 |
| All uses | 30,348.8 |

The extent of forests varies considerably among the regions of the State. Forest land comprises 77 percent of the total land area in South Mississippi, 58 percent in Central Mississippi, 44 percent in the North, and 37 percent in the Delta. Nevertheless, except for the Delta, wherein the proportion of forest varies widely by counties, the forest is fairly well distributed within each region.[3]

Regionally, the chief changes in forest-land acreage since the first Survey have been a 9 percent decrease in the Delta and a 16 percent increase in the North (table 2). In the Delta, forest land has been cleared for large-scale agriculture. In the North, extensive areas of eroded farm lands have reverted to forest.

Table 2.--Forest-land acreage by Survey region, 1946-48

| Survey region | Forest land | Change since 1932-35 |
|---|---|---|
| | Thousand acres | Percent |
| North | 3,722.9 | +16 |
| Central | 6,020.0 | + 2 |
| South | 4,746.4 | - 3 |
| Delta | 2,043.2 | - 9 |
| State | 16,532.5 | + 2 |

All but 24,000 acres of the 16.5 million acres of forest land are commercial; i.e., they are suitable and available for growing merchantable timber.

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[1] Definitions of terms will be found at the back of this report, page 64.

[2] For a discussion of the estimates of change, see page 22.

[3] Detailed statistics on 1946-48 acreage--as well as on volume, growth, and drain will be found in the body of tables beginning on page 24.

## Hardwood forest types have increased

The loblolly-shortleaf pine type makes up almost one-third of the total forest acreage, and the longleaf-slash pine type, 13 percent (for type map, see figure 2). The combined extent of these pine types is 7.4 million acres; this is considerably less than the 9.6 million acres they covered at the time of the 1932-35 Survey. Apparently the chief factor involved in this change has been the preference of loggers for pines, which has resulted in converting many pine stands (with hardwoods in mixture) into hardwood and hardwood-pine stands. From all sources, including land abandonment in the North, the upland hardwood and upland hardwood-pine types have more than doubled in area since 1932-35 (table 3).

Table 3. Commercial forest-land acreage by forest type, 1946-48

| Forest type | Forest land | Change since 1932-35 |
|---|---|---|
| | Thousand acres | Percent |
| Loblolly-shortleaf pine | 5,174.3 | -21 |
| Longleaf-slash pine | 2,201.4 | -29 |
| Cedar | 51.8 | (1/) |
| Bottomland hardwood | 3,388.4 | -16 |
| Upland hardwood ) | 1,928.9 | +122 |
| Upland hardwood-pine ) | 3,764.1 | |
| All types | 16,508.9 | + 2 |

1/ Not significant.

## Stand sizes not well balanced

Mississippi's forest stands--10 percent large saw timber, 26 percent small saw timber, 39 percent cordwood, 14 percent seedling and sapling, and 11 percent restocking and denuded--have a disproportionately large part of their area in small trees.

Comparison of the major forest types shows the longleaf-slash pine type, with 1 percent of its area in large saw timber and 31 percent restocking and denuded, to be the most poorly balanced in stand size. However, none of the forest types has a size distribution that can be considered well balanced. Geographically, North and South Mississippi have stands most heavily weighted to small sizes. The loblolly-shortleaf pine type occurs in smaller stand-size classes in the North than elsewhere. The longleaf-slash pine, upland hardwood, and upland hardwood-pine types all occur in the smallest stands in the South. The stand-size distribution of the upland hardwood type, particularly, is excessively distorted in the South region: 76 percent of its area is classed as restocking or denuded.

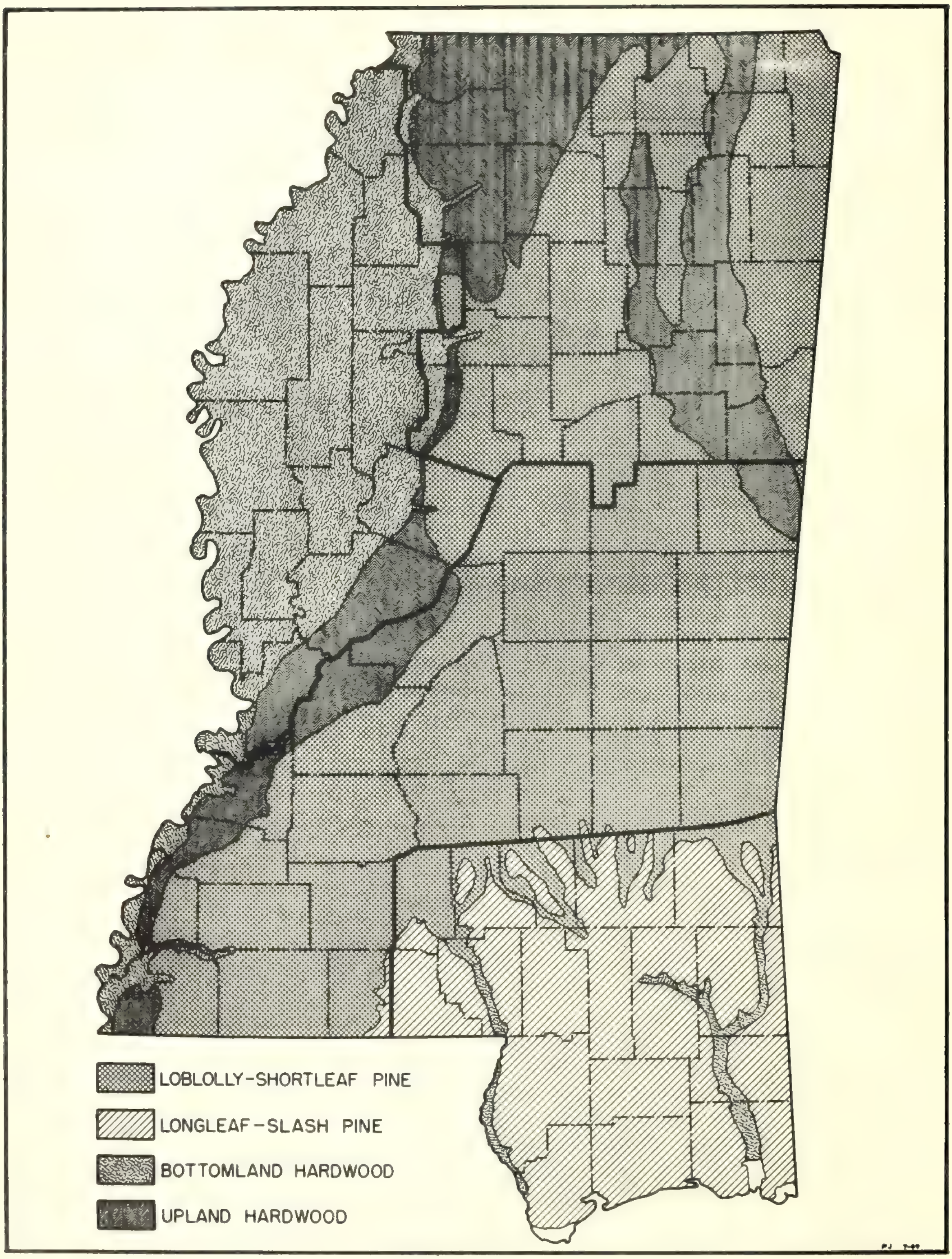

Figure 2.--Generalized forest types in Mississippi. The cedar and upland hardwood-pine types are not concentrated enough to be shown.

### Much forest land poorly stocked

Tree stocking throws light on how well the forest is utilizing the growth capacity of forest soils. More than a fourth of Mississippi's forest land has less than 40 percent of the number of growing-stock trees required for full stocking. Partial stocking --40 to 70 percent of full stocking--on another 40 percent of the forest also limits the contribution to potential timber growth on much of this area. Viewed as an industrial plant, a large portion of Mississippi's forest land has been shut down. Its productive equipment needs extensive repairs.

Tree stocking in none of the regions deviates markedly from the State averages, except in the South, where the longleaf-slash pine type is concentrated (figure 3). Here, extensive cut-over lands have failed to restock to more than a scattering of trees. The longleaf-slash pine type is poorly stocked on 35 percent of its area, nonstocked on 21 percent. Other forest types do not vary much from State averages.

The generally poor stocking of Mississippi's forests is emphasized by the statistics on basal area per acre. Basal area of growing stock, which is the cross-sectional area of trees at breast height, averages 68 square feet per acre in saw-timber stands, 37 square feet in cordwood stands, and 14 square feet in other stands. Stand size for stand size, it is virtually the same in softwood types, bottomland hardwoods, and upland-hardwood types.

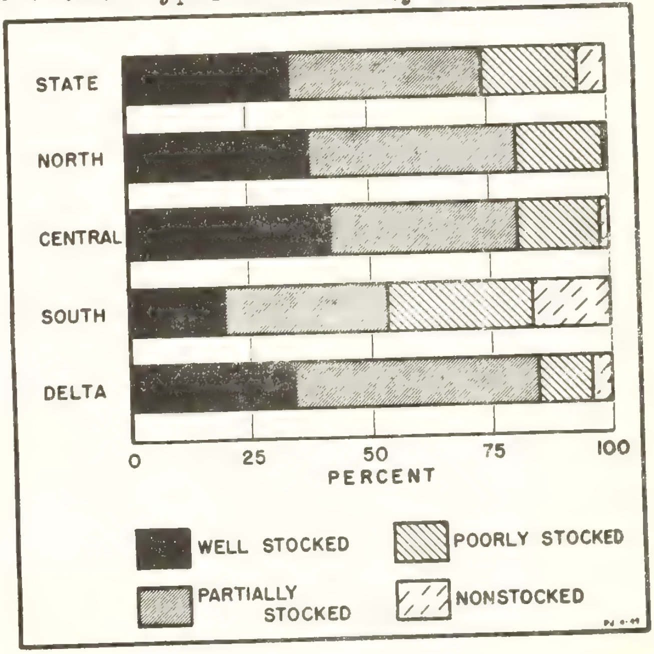

Figure 3.--Tree stocking in commercial forests by Survey region, 1946-48

How deficient these basal areas of growing-stock trees are may be surmised from the knowledge that the average stand, if fairly well stocked under good management, would have a basal area of about 90 square feet per acre in saw-timber stands and 80 in cordwood stands. This would indicate that only three-fourths of the growing space is being used by growing-stock trees in saw-timber stands and not quite one-half in cordwood stands.

Part of the basal-area deficit in Mississippi's forests is due simply to lack of trees, especially in stands below saw-timber size. A goodly portion of it, however, is due to the fact that much of the growing space is occupied by cull trees. The basal area of cull trees is one-fourth of the total basal area of all trees in Mississippi. The cull element is almost one-third of the total basal area in the North, South, and Delta, and 16 percent in the Central region. This waste of growing space is particularly heavy in hardwood types (table 4).

Table 4.--Proportion of total basal area in cull trees, 1946-48

| Forest type | State | North | Central | South | Delta |
|---|---|---|---|---|---|
| | Percent | | | | |
| Loblolly-shortleaf pine and longleaf-slash pine | 14 | 18 | 12 | 18 | 15 |
| Bottomland hardwood | 34 | 39 | 24 | 50 | 33 |
| Upland hardwood and upland hardwood-pine | 27 | 35 | 20 | 39 | 24 |
| All types [1] | 24 | 31 | 16 | 31 | 31 |

[1] Includes cedar type.

## Total growing stock has dropped

Total growing stock [4] amounts to 7.7 billion cubic feet, or 466 cubic feet per acre of commercial forest land. The softwood total is 3.3 billion; the hardwood, 4.4 billion (table 5). Hardwood volume predominates in all regions except South Mississippi, where it is one-third of the total. Hardwoods make up nearly 90 percent of the total volume in the Delta, 68 percent in the North, and 55 percent in the Central region.

Table 5.--Total growing stock by Survey region, 1946-48

| Survey region | All species | Softwood | Hardwood |
|---|---|---|---|
| | Million cubic feet | | |
| North | 1,189.1 | 370.4 | 818.7 |
| Central | 3,784.1 | 1,718.4 | 2,065.7 |
| South | 1,681.6 | 1,114.6 | 567.0 |
| Delta | 1,037.5 | 127.5 | 910.0 |
| State | 7,692.3 | 3,330.9 | 4,361.4 |

---

[4] All references to volume in this report are to net volume.

The ratio of cordwood-tree to sawlog-tree growing stock is nearly 1 to 2 among softwood species and 2 to 3 in hardwood species (figure 4). The largest proportion of cordwood-tree to sawlog-tree volume is found in the North.

Important changes have occurred in total growing stock since 1932-35. The decline for all timber is 10 percent, but the real significance of this decline lies in the sizes and species of timber which have been cut most heavily (figure 5). The volume of cordwood trees of softwood species has increased 8 percent, but sawlog trees have been cut so heavily that the net decline of softwood species is 20 percent. Hardwood growing-stock volume remains unchanged, at least partly because much of the growing space made available by the logging of pines has filled in with hardwood species. Yet even among hardwoods, the volume in sawlog trees has been cut back 18 percent.

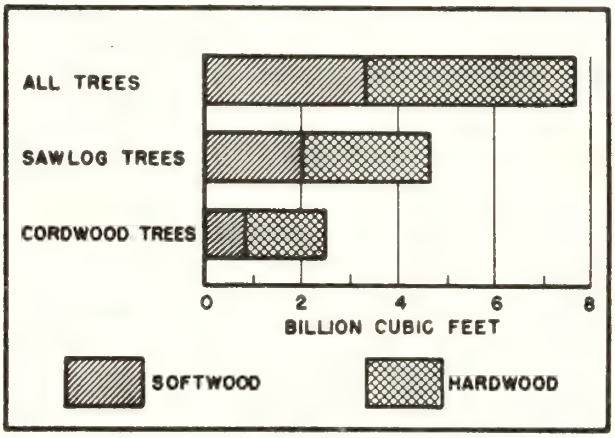

Figure 4.--Total growing stock in cordwood and sawlog trees, 1946-48.

These changes in sawlog and cordwood trees are shown in table 6. In softwoods, depletion has occurred in 10-inch trees, and the rate of depletion goes up rapidly with increase in tree size. Eight-inch trees have barely increased in number since the first Survey, so that the 8 percent increase in softwood cordwood tree volume has actually occurred almost entirely in 6-inch trees. In hardwoods, depletion occurs in 16-inch trees and the rate also goes up rapidly with increase in tree size. Smaller tree sizes have gained in numbers, particularly in the 6- and 8-inch classes.

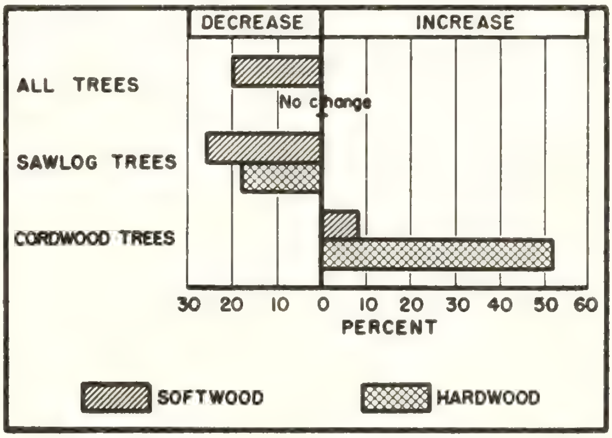

Figure 5.--Change in total growing stock in cordwood and sawlog trees between 1932-35 and 1946-48.

Table 6.--Change in the number of growing-stock trees by tree-diameter class between 1932-35 and 1946-48

| D.b.h. class (inches) | All species | Softwood | Hardwood |
|---|---|---|---|
| | | Percent | |
| 6 | +30 | +19 | +44 |
| 8 | +33 | + 1 | +66 |
| 10 | +16 | - 4 | +32 |
| 12 | + 6 | - 5 | +15 |
| 14 | + 8 | - 4 | +15 |
| 16 | - 4 | - 8 | - 2 |
| 18 | -10 | -21 | - 7 |
| 20 | -26 | -42 | -21 |
| 22 | -30 | -48 | -25 |
| 24 | -42 | -58 | -39 |
| 26 and up | -46 | -67 | -41 |

Since the Forest Survey of 1932-35, timber cutting has had its greatest impact on the stands of the North region. Here, total softwood growing stock has been cut virtually in half; hardwood is down 7 percent (figure 6). In the Central region, softwood is down one-fourth. Much of this decline has been offset by hardwood replacement. In the Delta, total growing stock has dropped 18 percent. Only in the South has there been a net increase, amounting to 11 percent.

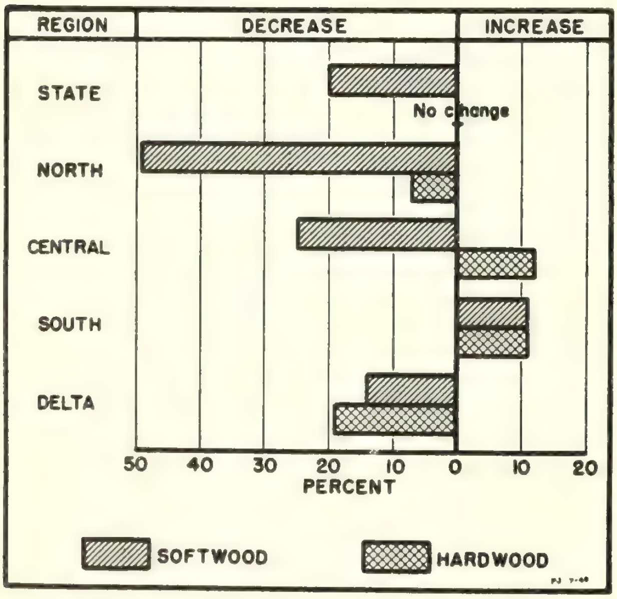

Figure 6.--Change in total growing stock by Survey region between 1932-35 and 1946-48.

Loblolly pine, comprising 19 percent of total growing stock, is the leading softwood species. Shortleaf pine follows with 12 percent of the volume. All other softwoods add up to 12 percent. Among hardwoods, sweetgum leads with 12 percent of the total volume. The various red oaks add up to 13 percent; white oaks add up to 9 percent. All other hardwoods, including a wide variety of species, make up 23 percent of the total growing stock (table 7).

Table 7.--Total growing stock by species, 1946-48

| Species | Total growing stock | Change since 1932-35 |
|---|---|---|
| | Million cubic ft. | Percent |
| Softwood: | | |
| Loblolly pine | 1,427.4 | -27 |
| Shortleaf pine | 935.3 | -36 |
| Longleaf pine | 384.9 | +43 |
| Slash pine | 308.2 | |
| Other pine | 104.9 | + 9 |
| Other softwood | 172.2 | |
| All softwood | 3,330.9 | -20 |
| Hardwood: | | |
| Red oaks | 1,003.5 | +25 |
| White oaks | 702.6 | +13 |
| Sweetgum | 900.0 | + 1 |
| Black and tupelo gums | 355.8 | -26 |
| Other hardwood | 1,399.5 | -10 |
| All hardwood | 4,361.4 | 0 |
| All species | 7,692.3 | -10 |

The 20 percent decline in softwood total growing stock since the first Survey is accounted for largely by two species--shortleaf and loblolly pines. Longleaf and slash pines, in fact, have increased in total growing stock by making a large ingrowth into under-sawlog sizes. Total hardwood growing stock has not changed. Although red and white oaks have increased substantially, black and tupelo gums and other hardwoods have declined.

Total growing stock in loblolly-shortleaf pine stands averages 578 cubic feet per acre, some 80 percent more volume than in the longleaf-slash pine type (315 cubic feet). The bottomland hardwood type averages 565 cubic feet per acre, as compared with 387 cubic feet in the upland hardwood type and 357 cubic feet in the upland hardwood-pine type.

Total growing stock per acre is highest in the Central region (an average of 630 cubic feet). The North and South regions are the most poorly wooded, both regions having less than 400 cubic feet of total growing stock per acre.

Non-growing stock a large portion of total timber

The volume of sound wood in hardwood tops and large limbs to a 4-inch diameter is equal to one-fifth of the total hardwood timber volume in Mississippi (table 8). Although usually left to rot in the

Table 8.--Total volume by class of timber, 1946-48

| Species group | All sound wood | Growing stock | Hardwood tops and limbs | Cull trees |
|---|---|---|---|---|
| | - - - - - - -Million cubic feet - - - - - - - - | | | |
| Softwood | 3,443.1 | 3,330.9 | .. | 112.2 |
| Hardwood | 8,111.4 | 4,361.4 | 1,558.6 | 2,191.4 |
| All species | 11,554.5 | 7,692.3 | 1,558.6 | 2,303.6 |

woods when cut, hardwood tops and limbs have declined 12 percent in volume since the first Forest Survey. This is explained by the fact that hardwood sawlog trees, which contain the tops and limbs inventoried, have declined sharply in volume since the first Forest Survey.

Sound volume in cull trees is a potential but largely unused resource. Volume in hardwood cull trees is equal to approximately a fourth of the total sound hardwood timber volume. Since new recruits are added regularly to the number of cull trees, but few of the culls are utilized even for fuel wood, the sound volume of this resource has increased 22 percent since the first Survey. The sound volume of cull softwood trees is little more than 3 percent of the total softwood volume.

### Sawlog volume down one-fourth

Sawlog growing stock totals 29.3 billion board feet and averages 1,776 board feet per acre. [5] Of the total, 16.9 billion board feet (58 percent) are hardwood. Hardwoods predominate in all regions except South Mississippi (table 9). The proportions of hardwood and softwood sawlog volume are very similar to the proportions in total growing stock.

Table 9.--Sawlog growing stock by Survey region, 1946-48

| Survey region | All species | Softwood | Hardwood |
|---|---|---|---|
| | - - - - -Million board feet - - - - - | | |
| North | 3,931.4 | 1,108.0 | 2,823.4 |
| Central | 14,013.8 | 6,323.4 | 7,690.4 |
| South | 6,470.0 | 4,338.5 | 2,131.5 |
| Delta | 4,912.8 | 609.2 | 4,303.6 |
| State | 29,328.0 | 12,379.1 | 16,948.9 |

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[5] All board-foot volumes quoted in this report are net volumes by the International 1/4-inch log rule. Volume calculated by the Doyle log rule would total about two-thirds as much for the State.

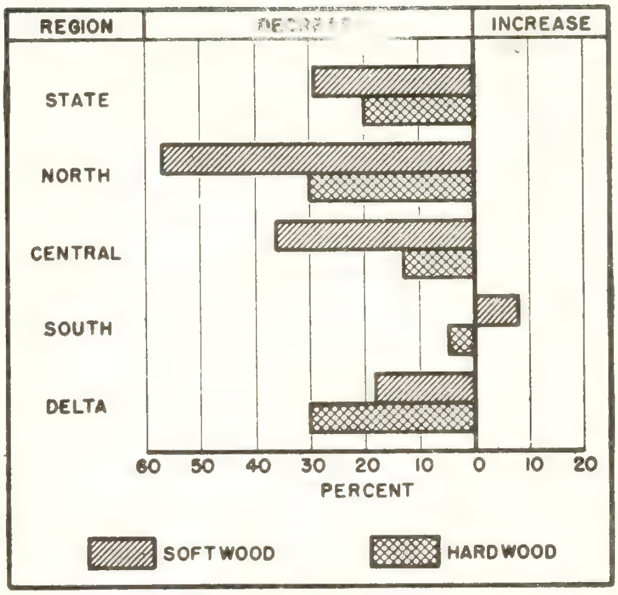

Figure 7.--Change in sawlog growing stock by Survey region between 1932-35 and 1946-48.

The sharp decline in sawlog volume since 1932-35 is illustrated in figure 7. The toll of logging has been extremely heavy in the North, where the sawlog volume of softwoods has dropped 57 percent, and even the generally less desired hardwoods have dropped 30 percent in sawlog volume. In the Central region, softwood sawlog volume has gone down 36 percent; and in the Delta, hardwood sawlog volume has dropped 30 percent. Only in the South has a sharp decline been avoided. Here, total sawlog volume has increased 3 percent. This is apparently due to a relatively large proportion of ingrowth of small trees to sawlog size on areas from which most of the sawlog volume had been removed previous to the first Forest Survey. For Mississippi as a whole, sawlog volume of softwoods has dropped 29 percent; and of hardwoods, 20 percent.

Sawlog volume is concentrated in the smaller tree sizes (table 10). Softwoods have 43 percent of their volume in 10- and 12-inch trees and 43 percent in 14-, 16-, and 18-inch trees. Only 14 percent of the softwood volume is in trees above 18 inches. Hardwood sawlog trees tend to be larger than softwood, but only one-third of the hardwood total is in tree sizes above 18 inches. These generalizations apply to most of the State, but several regional differences are worth noting. In South Mississippi, only 7 percent of the softwood volume is in trees larger than 18 inches d.b.h. In the Delta, 42 percent of the hardwood volume and 60 percent of the softwood volume are in these larger trees.

Table 10.--Distribution of sawlog volume by tree diameter class, 1946-48

| D.b.h. class (inches) | All species | Softwood | Hardwood |
|---|---|---|---|
| | - - - - - - Million board feet | - - - - - - | |
| 10 - 12 | 8,238.5 | 5,276.5 | 1/ 2,962.0 |
| 14 - 18 | 13,834.9 | 5,300.9 | 8,534.0 |
| 20 - 24 | 5,022.2 | 1,291.5 | 3,730.7 |
| 26 and up | 2,232.4 | 510.2 | 1,722.2 |
| All classes | 29,328.0 | 12,379.1 | 16,948.9 |

1/ 10-inch hardwoods not included in sawlog volume.

The present concentration of sawlog volume in small trees points up another important change which has occurred since 1932-35. Not only has the total sawlog volume declined sharply, but the decline has been chiefly in larger trees (figure 8).

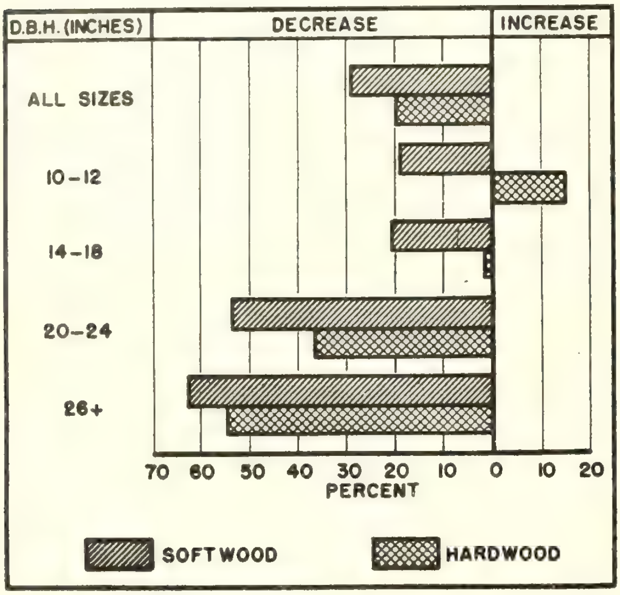

Figure 8.--Change in sawlog growing stock by tree diameter class between 1932-35 and 1946-48.

Distribution of sawlog growing stock among species is much the same as the distribution of total growing stock (table 11). Loblolly pine makes up 20 percent of the sawlog volume; shortleaf pine, 9 percent; all other softwoods, 13 percent. Among hardwoods, sweetgum is the leading single species, with 11 percent of the sawlog volume. Red oaks add up to 14 percent; white oaks, 9 percent. All other hardwoods account for 24 percent of the total.

Table 11.--Sawlog growing stock by species, 1946-48

| Species | Sawlog growing stock | Change since 1932-35 |
|---|---|---|
| | Million board feet | Percent |
| Softwood: | | |
| Loblolly pine | 5,734.7 | -34 |
| Shortleaf pine | 2,785.4 | -48 |
| Longleaf pine | 1,431.5) | +31 |
| Slash pine | 1,157.2) | |
| Other pine | 454.3) | - 2 |
| Other softwood | 816.0) | |
| All softwood | 12,379.1 | -29 |
| Hardwood: | | |
| Red oaks | 4,223.2 | + 6 |
| White oaks | 2,525.8 | -13 |
| Sweetgum | 3,112.7 | -29 |
| Black and tupelo gums | 1,262.1 | -41 |
| Other hardwood | 5,825.1 | -26 |
| All hardwood | 16,948.9 | -20 |
| All species | 29,328.0 | -24 |

Few tree species have gained enough in sawlog volume to overcome the heavy toll on them since the first Forest Survey. Slash and longleaf pines, which had been reduced to a sawlog volume of less than 2 billion board feet at the time of the first Survey, have gained 31 percent in sawlog volume. Red oaks have gained 6 percent; but all other important species, both softwood and hardwood, have declined, most of them quite sharply.

The portion of sawlog volume occurring in stands below saw-timber size is 18 percent for the State, and varies from 11 percent in the Central region to 34 percent in the North.

Sawlog volume in large saw-timber stands averages some 4,200 board feet per acre. This is but 7 percent greater than the volume in small saw-timber stands, and can be explained partly by the relatively poor stocking of sawlog trees in the larger stands. The average for all cordwood stands is some 700 board feet per acre. In view of present cutting practices, it is plain that some of the cordwood area contains sawlog trees in sufficient concentration to be considered merchantable for sawlogs. This is particularly true because cordwood areas in small tracts are frequently intermixed with saw-timber areas on the same properties. Nevertheless, in most of the forest classed as cordwood or seedling and sapling, the sawlog volume is not yet merchantable.

The loblolly-shortleaf pine type (2,013 board feet) averages three-fourths more volume than the longleaf-slash pine type (1,143 board feet), and the bottomland hardwood type (2,503 board feet) averages four-fifths more volume than the upland hardwood and upland hardwood-pine types (1,389 board feet). For most of the types, volume per acre shows up best in the Central region. The North has the least volume per acre of all the regions for the loblolly-shortleaf pine type (1,021 board feet) and the bottomland hardwood type (1,591 board feet). The South has the least volume for the longleaf-slash pine type (1,102 board feet), the upland hardwood-pine type (843 board feet), and the upland hardwood type (328 board feet).

### Sawlog quality poor

The quality of hardwoods is at the low point where more than 60 percent of the hardwood sawlog timber is in grade 3 logs in each of Mississippi's four regions. The proportion of this low-grade hardwood for the whole State is 66 percent (figure 9).[6] Much of this timber is barely accessible economically. The 24 percent of the total hardwood sawlog volume which is in grade 3 logs occurring in poor stands (stands in which no grade 2 or better trees or logs occur) is on the margin, so far as value is concerned, for sawlogs, cooperage bolts, hewn ties, and other hardwood products.

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[6] The low grade of much of Mississippi's timber is due to the prevailing small sizes of trees. Many trees, if permitted to grow to larger sizes, will develop into higher-grade timber.

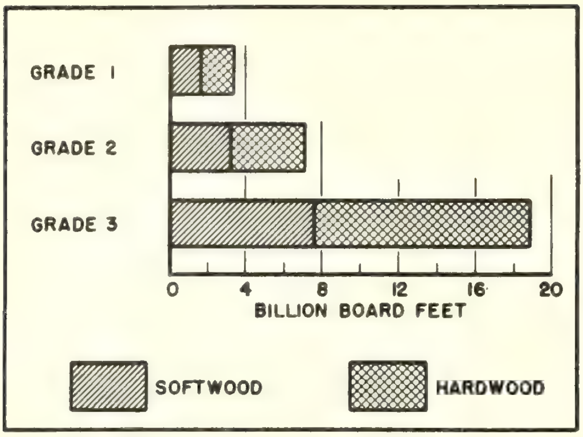

Figure 9.--Sawlog volume by log and tree grade, 1946-48.

Although grade is not so important among softwoods in its effect on economic accessibility, grade does affect softwood timber values considerably. It is significant, therefore, that 62 percent of the softwood sawlog volume is in grade 3 trees, most of it occurring in poor stands. Regionally, the range in the proportion of sawlog volume in grade 3 trees is from 56 percent in the Central region to 70 percent in South Mississippi.

Sawlog quality is low in all forest types. More than one-third of the saw-timber area of every forest type, except bottomland hardwood, has no grade 2 or better hardwood logs or softwood trees present; and in bottomland hardwood, the proportion of poor quality is very close to a third.

Drain continues high

Despite the already heavy depletion of the forest resource, timber drain continues high. Drain is heaviest in trees of sawlog size, although cordwood trees now provide some 20 percent of the total drain.

Drain on the forest resource for different commodities is diagrammed in figure 10. Sawlogs for lumber are, by far, the most important single source of drain. They make up 51 percent of the total drain of 544 million cubic feet. Pulpwood and fuel wood each comprise 15 percent of the total; hewn ties, 5 percent; all other products, 14 percent. Drain on sawlog trees alone differs chiefly in that sawlogs for lumber make up 62 percent of the total; pulpwood, 5 percent, and fuel wood, 10 percent.

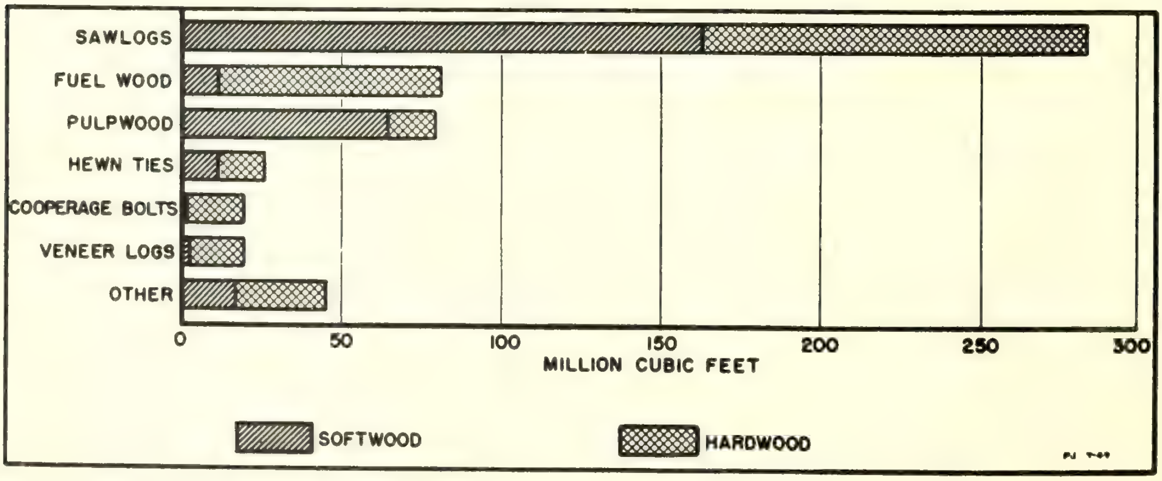

Figure 10.--Drain on total growing stock by commodity, 1946.

Drain by species group is roughly in proportion to standing timber volume, except that softwoods are cut somewhat more heavily, and hardwoods more lightly. Virtually half of the drain on total growing stock is in softwoods, 20 percent in oaks, 11 percent in sweetgum, and 20 percent in other hardwoods.

More than half of the total drain in Mississippi is from the Central region. South Mississippi accounts for 19 percent; North, 19 percent; the Delta, 11 percent (table 12). The proportions for sawlog drain, which totals 2,536 million board feet, are almost the same. So far as standing timber is indicative of the volume available in each region for cutting, these are about the proportions of drain to be expected.

Table 12.--Drain on growing stock by Survey region, 1946

| Survey region | Total growing stock | | | Sawlog growing stock | | |
|---|---|---|---|---|---|---|
| | All species | Softwood | Hardwood | All species | Softwood | Hardwood |
| | Million cubic feet | | | Million board feet | | |
| North | 105.6 | 31.8 | 73.8 | 491.1 | 151.8 | 339.3 |
| Central | 280.7 | 159.3 | 121.4 | 1,312.1 | 687.0 | 625.1 |
| South | 106.6 | 73.3 | 33.3 | 446.8 | 280.8 | 166.0 |
| Delta | 60.7 | 5.2 | 55.5 | 286.5 | 22.9 | 263.6 |
| State | 553.6 | 269.6 | 284.0 | 2,536.5 | 1,142.5 | 1,394.0 |

### Growth weighted toward hardwood species

The estimates of timber growth apply to a different year than drain. Consequently, the growth and drain estimates for Mississippi are not strictly comparable. The growth estimates would have to be adjusted for changes in inventory before they could be compared with the drain estimates. Such an adjustment has not been made because it is felt that comparisons between the inventories of the two Forest Surveys are far more useful and indicative of the forest situation than any growth-drain comparison for a single year.

Growth statistics are presented here as an index of the various species, sizes, and types of new timber that are coming into the growing stock in each region and, in per-acre form, as an index of forest productivity.

The total annual net growth of timber in Mississippi is 529 million cubic feet (table 13). Nearly two-thirds of the total is in hardwood species. In all regions except South Mississippi, total hardwood growth is substantially greater than softwood growth. More than one-half of the total growth (273 million cubic feet) is in cordwood trees; and in hardwood, characterized in many areas by heavy stands of small trees that are entering cordwood size, the growth of the cordwood trees exceeds that of the sawlog trees by more than 2 to 1. The relatively aggressive total growth of small hardwood as compared with small pine is one of the notable features of the forest situation in the State.

Growth in sawlog growing stock amounts to 1,816 million board feet and is nearly balanced between softwood and hardwood species. Softwood sawlog growth is greater in the Central and South regions, but it is considerably less than hardwood growth in the North and quite small in the Delta.

Table 13.--Current annual net growth by Survey region, 1946-48

| Survey region | Total growing stock | | | Sawlog growing stock | | |
|---|---|---|---|---|---|---|
| | All species | Softwood | Hardwood | All species | Softwood | Hardwood |
| | Million cubic feet | | | Million board feet | | |
| North | 105.9 | 22.9 | 83.0 | 231.2 | 86.7 | 144.5 |
| Central | 265.6 | 109.0 | 156.6 | 933.7 | 504.5 | 429.2 |
| South | 89.2 | 57.4 | 31.8 | 401.5 | 292.9 | 108.6 |
| Delta | 68.0 | 3.5 | 64.5 | 250.1 | 17.0 | 233.1 |
| State | 528.7 | 192.8 | 335.9 | 1,816.5 | 901.1 | 915.4 |

Current annual growth per acre is 32 cubic feet of total growing stock, 110 board feet of sawlog volume. Softwood types grow more wood per acre, both in total growing stock and sawlog volume, than do hardwood types (table 14). Regionally, the exceptions are the North, where total growing stock grows about the same volume per acre in all types, and the Delta, where sawlog growth is greater in hardwood types than in softwood.

The fairly meager average growth of 110 board feet per acre reflects the smallness and partial stocking of many of Mississippi's timber stands. However, softwood saw-timber stands grow an average of 251 board feet per acre, and hardwood saw-timber stands grow 164 board feet.

Table 14.--Current annual net growth per acre by forest-type group, 1946-48

| Forest-type group | Total growing stock | Sawlog growing stock |
|---|---|---|
| | Cubic feet | Board feet |
| Softwood | 36 | 132 |
| Hardwood | 29 | 92 |
| All types | 32 | 110 |

## Forest resource largely in private ownership

The dominant classes of forest landowners are farmers, with 42 percent of the forest, and the group of businessmen, housewives, wage earners, and professional workers, with 31 percent of the forest. These big groups of owners, numbering many thousands of individuals, control the bulk of Mississippi's timber. They hold about two-thirds of the growing stock (table 15).

Table 15.--Commercial forest land and growing stock by class of owner, 1946-48

| Class of owner | Forest land | Total growing stock | Sawlog growing stock |
|---|---|---|---|
| | Million acres | Billion cubic feet | Billion board feet |
| Farmer | 7.0 | 3.0 | 10.6 |
| Businessman, housewife, wage earner, and professional worker | 5.1 | 2.2 | 8.5 |
| Forest-products industry | 2.3 | 1.4 | 5.4 |
| Other private | .4 | .2 | .7 |
| Public | 1.7 | .9 | 4.1 |
| All owners | 16.5 | 7.7 | 29.3 |

Among private holdings, the forest-products industries have the largest timber. With 14 percent of the commercial forest land, forest-products industries own 18 percent of the growing stock and sawlog volume. Pulp companies, in fact, have a larger proportion of their forest stands in saw-timber sizes--55 percent --than any other class of owner.

All public agencies together hold 10 percent of the commercial forest land, most of it in national forests. Like the forest land held by forest-products industries, public forest land has somewhat bigger than average stands of timber. Nearly half of the public forest area is in saw-timber stands. It has 12 percent of the total growing stock and 14 percent of the sawlog volume in Mississippi.

## Accuracy of the Survey

Where sampling methods are used, as in the Forest Survey, accuracy of the resulting estimates may be affected by two types of error. The first type stems from use of a sample to estimate the whole and from variability of the item being sampled. This type is termed sampling error; it is susceptible to a mathematical evaluation of the probability of error. The second type of error derives from human mistakes in measurement, judgment, arithmetic, or recording, and from limitations of method or equipment. Methods for calculating the effect of this second type of error--often referred to as reporting and estimating error--have not been developed. Reporting and estimating error can, however, be held to a minimum by training, good supervision, checking, and emphasis on careful work. This the Forest Survey constantly attempts to do.

The 1946-48 data on forest acreage and timber volumes are based on a forest-nonforest dot classification made on aerial photographs and on ground classification and measurement of quarter-acre sample plots located in a square pattern over the State. In 55 counties, pairs of plots were located every 3 miles on lines 3 miles apart; in the other 27 counties, the spacing was 4.2 miles. Statistical analysis of the data, using random-sampling formulas, indicates a sampling error of 0.5 percent for the State estimate of total forest acreage, 2.1 percent for total growing stock, and 2.6 percent for sawlog growing stock. Because the volume estimates are derived from a systematic sample, and tests indicate that systematic sampling is more generally efficient than a random sample of the same size, the estimates of volume sampling error may be considered as setting an upper limit of error, rather than as expressing the actual probability of error.

As the State total acreage and volumes are broken down by Survey region, county, forest type, species, and other subdivisions, the possibility of error increases and is greatest for the smallest items. The order of this increase is suggested in the following tabulation, which shows the sampling error to which the estimates may be liable on a probability of two chances out of three. The figures were obtained by averaging out the areas with 3-mile and those with 4.2 mile plot spacing, and by averaging out the differences in forest variability over the State. They may therefore apply only approximately to any breakdown of a State total.

| Approximate sampling error in commercial-forest acreage | | Approximate sampling error in total growing stock | | Approximate sampling error in sawlog growing stock | |
|---|---|---|---|---|---|
| Thousand acres | Percent error | Million cubic feet | Percent error | Million board feet | Percent error |
| 16,500 | 0.5 | 7,500 | 2.1 | 29,000 | 2.6 |
| 10,000 | 0.6 | 5,000 | 2.6 | 20,000 | 3.2 |
| 5,000 | 0.9 | 2,500 | 3.7 | 10,000 | 4.4 |
| 2,000 | 1.4 | 1,000 | 5.8 | 4,000 | 7.0 |
| 500 | 2.9 | 300 | 10.6 | 1,000 | 14.1 |
| 50 | 9.1 | 30 | 33.6 | 100 | 44.5 |

Ownership of forest land was obtained primarily from a sample of 166 four-square-mile areas distributed over the State. Volume data by class of owner were based on owner classification of all sample plots.

Growth estimates are based on radial-growth measurements and dead-tree data taken on the sample plots. No attempt was made to calculate sampling error in the growth estimates.

The estimates of timber drain are based upon a 100-percent canvass of timber production, except that in the case of fuel wood, fence posts, and miscellaneous domestic use on farms, production was estimated from an area sample. The data on production of each commodity were converted to terms of drain upon timber growing stock by using drain-to-production ratios derived from measurements taken on sample cutting areas. The sampling error to which the State total cubic-foot drain estimates are liable, on a probability of two chances out of three, is as follows for each commodity.

| Commodity | Sampling error in cubic-foot drain |
|---|---|
| | Percent error |
| Sawlogs | 3.2 |
| Fuelwood | 12.0 |
| Pulpwood | 3.1 |
| Hewn ties | 2.5 |
| Cooperage bolts | 6.9 |
| Veneer logs | 5.9 |
| Poles | 0.1 |
| Fence posts | 15.8 |
| Piling | 0.1 |
| Miscellaneous products | 13.0 |
| Miscellaneous domestic use | 49.8 |
| All commodities | 2.6 |

In computing the changes that have taken place between 1932-35 and 1946-48, the data from the first Forest Survey were adjusted to make them as closely comparable as possible to data from the second Survey. This was necessary because of certain basic differences between the two sets of data. For example, published estimates from the first Survey were based on a then official figure of 29,671,680 acres of total land area in Mississippi. This has since been superseded by a revised figure of 30,348,800 acres (from the Bureau of Census "Areas of the United States, 1940"), based on more accurate measurement. Thus, while actual land acreage has changed little if at all, the estimate of land acreage has increased 2.3 percent, affecting forest-area and timber-volume estimates in like proportion. Again, the boundaries of some of the Survey regions were changed between the two Surveys, so as to put all boundaries on county lines for convenience in compilation. Yet again, the lower diameter limit for hardwood sawlog trees was dropped from 13.0 inches d.b.h. on the first Survey to 11.0 inches on the second Survey, in line with changing utilization practices. In addition to these major points, there were a number of procedural differences between the two Surveys that were taken into account. In every case, the data from the first Survey were adjusted to conform to the standards of the second Survey before change was computed.

It is not possible to estimate the sampling error in the data on change in forest acreage and timber volume. In the 1932-35 Survey, sample plots were spaced one-eighth mile apart on lines 10 miles apart; an estimate of sampling error was not made. Sampling error in the State forest acreage estimate of the first Survey was probably very small, as it is for the second Survey; and the indicated change in total forest acreage may be considered essentially correct. Indicated changes for Survey regions and other portions of the total acreage should be valued in proportion to the magnitude of the item and of the change. Changes in timber volume, because of the possible effect of non-sampling as well as sampling errors, are shown only for major groupings of the data.

# EXPANDED TABLES

Table 16.--Land area by type of use and Survey region, 1946-48

| Land use | State | North | Central | South | Delta |
|---|---|---|---|---|---|
| | Thousand acres | | | | |
| Forest: 1/ | | | | | |
| Commercial | 16,508.9 | 3,715.0 | 6,007.6 | 4,745.9 | 2,040.4 |
| Reserved-commercial | 23.6 | 7.9 | 12.4 | .5 | 2.8 |
| Total | 16,532.5 | 3,722.9 | 6,020.0 | 4,746.4 | 2,043.2 |
| Farm nonforest: 2/ | | | | | |
| Cropland in use | 6,585.9 | 1,944.0 | 1,655.2 | 685.6 | 2,301.1 |
| Idle and fallow | 850.4 | 252.1 | 339.8 | 99.1 | 159.4 |
| Pasture | 4,232.4 | 1,749.4 | 1,777.3 | 282.8 | 422.9 |
| Other farm | 1,000.8 | 419.6 | 262.7 | 66.5 | 252.0 |
| Total | 12,669.5 | 4,365.1 | 4,035.0 | 1,134.0 | 3,135.4 |
| Other nonforest | 1,146.8 | 308.2 | 243.8 | 308.4 | 286.4 |
| All land | 30,348.8 | 8,396.2 | 10,298.8 | 6,188.8 | 5,465.0 |

1/ No forest land was classed noncommercial because of its incapacity to produce commercial timber.
2/ Based on 1945 Census of Agriculture.

Table 17.--Forest land by class of ownership, 1946-48

| Ownership | Commercial forest | | Reserved-commercial forest | |
|---|---|---|---|---|
| | Thousand acres | Percent | Thousand acres | Percent |
| Private: | | | | |
| Cotton, general, and cotton-vegetable farmer 1/ | 4,400.4 | 26.7 | | |
| Other farmer 1/ | 2,588.0 | 15.7 | | |
| Businessman, housewife, wage earner, and professional worker | 5,077.2 | 30.7 | | |
| Lumber company | 1,162.6 | 7.0 | | |
| Pulp company | 548.2 | 3.3 | | |
| Sawmill-farmer | 275.8 | 1.7 | | |
| Concentration-yard owner | 224.2 | 1.4 | | |
| Naval stores company | 33.0 | 0.2 | | |
| Other forest industry | 48.5 | .3 | | |
| Real estate company and land speculator | 121.2 | .7 | | |
| Miscellaneous | 306.3 | 1.9 | | |
| Total | 14,785.4 | 89.6 | | |
| Public: | | | | |
| National forest | 1,034.7 | 6.3 | .6 | 2.5 |
| Soil Conservation Service | 70.3 | .4 | .. | .. |
| Fish and Wildlife Service | 30.0 | .2 | .. | .. |
| Other federal | 2/89.5 | .5 | 11.2 | 47.5 |
| State University and colleges | 29.1 | .2 | .. | .. |
| Other State | 55.1 | .3 | 11.8 | 50.0 |
| County | 414.8 | 2.5 | .. | .. |
| Total | 1,723.5 | 10.4 | 23.6 | 100.0 |
| All ownership | 16,508.9 | 100.0 | 23.6 | 100.0 |

1/ Farm woodland, as classified by the Bureau of the Census, totals 6.9 million acres in Mississippi.

2/ 10,000 acres of this total are held by the Indian Service.

Table 18.--Commercial forest land by class of ownership and Survey region, 1946-48

| Ownership | State | North | Central | South | Delta |
|---|---|---|---|---|---|
| | Thousand acres | | | | |
| Private: | | | | | |
| Cotton, general, and cotton-vegetable farmer 1/ | 4,400.4 | 1,396.7 | 1,433.1 | 1,018.6 | 552.0 |
| Other farmer 1/ | 2,588.0 | 388.5 | 1,265.6 | 598.2 | 335.7 |
| Businessman, housewife, wage earner, and professional worker | 5,077.2 | 1,303.1 | 1,505.9 | 1,572.7 | 695.5 |
| Lumber company | 1,162.6 | 82.8 | 496.8 | 400.0 | 183.0 |
| Pulp company | 548.2 | .. | 360.9 | 180.3 | 7.0 |
| Sawmill-farmer | 275.8 | 71.9 | 101.8 | 33.0 | 69.1 |
| Concentration-yard owner | 224.2 | 141.1 | 73.1 | 10.0 | .. |
| Other forest industry | 81.5 | .. | .. | 53.0 | 28.5 |
| Real estate company and land speculator | 121.2 | 8.2 | 54.2 | 50.0 | 8.8 |
| Miscellaneous | 306.3 | 45.0 | 94.1 | 124.8 | 42.4 |
| Total | 14,785.4 | 3,437.3 | 5,385.5 | 4,040.6 | 1,922.0 |
| Public: | | | | | |
| National forest | 1,034.7 | 121.3 | 360.2 | 494.3 | 58.9 |
| County | 414.8 | 40.1 | 185.4 | 142.0 | 47.3 |
| Other public | 2/274.0 | 116.3 | 76.5 | 69.0 | 12.2 |
| Total | 1,723.5 | 277.7 | 622.1 | 705.3 | 118.4 |
| All ownership | 16,508.9 | 3,715.0 | 6,007.6 | 4,745.9 | 2,040.4 |

1/ Farm woodland, as classified by the Bureau of the Census, totals 6.9 million acres in Mississippi--2.1 million acres in the North region, 2.7 million acres in the Central region, 1.2 million acres in the South, and 0.9 million acres in the Delta.

2/ The Indian Service holds 10,000 acres of this total--9,900 acres in the Central region, and 100 acres in the South.

Table 19.--Commercial forest land by stand size and class of ownership, 1946-48

| Ownership | All stand sizes | Saw timber | Cordwood | Other |
|---|---|---|---|---|
| | Thousand acres | | | |
| Private: | | | | |
| Cotton, general, and cotton-vegetable farmer | 4,400.4 | 1,354.1 | 2,005.9 | 1,040.4 |
| Other farmer | 2,588.0 | 974.7 | 926.8 | 686.5 |
| Businessman, housewife, wage earner, and professional worker | 5,077.2 | 1,649.7 | 2,063.3 | 1,364.2 |
| Lumber company | 1,162.6 | 509.1 | 311.7 | 341.8 |
| Pulp company | 548.2 | 300.4 | 153.1 | 94.7 |
| Sawmill-farmer | 275.8 | 119.3 | 117.6 | 38.9 |
| Concentration-yard owner | 224.2 | 84.4 | 108.6 | 31.2 |
| Other forest industry | 81.5 | 30.4 | 24.9 | 26.2 |
| Real estate company and land speculator | 121.2 | 42.5 | 41.6 | 37.1 |
| Miscellaneous | 306.3 | 92.1 | 122.6 | 91.6 |
| Total | 14,785.4 | 5,156.7 | 5,876.1 | 3,752.6 |
| Public: | | | | |
| National forest | 1,034.7 | 464.5 | 336.6 | 233.6 |
| County | 414.8 | 203.9 | 82.7 | 128.2 |
| Other public | 274.0 | 119.9 | 110.8 | 43.3 |
| Total | 1,723.5 | 788.3 | 530.1 | 405.1 |
| All ownership | 16,508.9 | 5,945.0 | 6,406.2 | 4,157.7 |

Table 20.--Land area and commercial forest by county, 1946-48 1/

| County | All land | Commercial forest | |
|---|---|---|---|
| | Thousand acres | Thousand acres | Percent |
| Adams | 286.7 | 191.0 | 66.6 |
| Alcorn | 259.2 | 119.8 | 46.2 |
| Amite | 466.6 | 279.7 | 59.9 |
| Attala | 463.4 | 259.7 | 56.0 |
| Benton | 263.7 | 155.1 | 58.8 |
| Bolivar | 586.9 | 126.4 | 21.5 |
| Calhoun | 378.9 | 214.1 | 56.5 |
| Carroll | 408.3 | 191.7 | 47.0 |
| Chickasaw | 323.8 | 127.9 | 39.5 |
| Choctaw | 266.9 | 122.3 | 45.8 |
| Claiborne | 311.0 | 196.8 | 63.3 |
| Clarke | 446.1 | 314.3 | 70.5 |
| Clay | 265.0 | 105.7 | 39.9 |
| Coahoma | 364.8 | 85.5 | 23.4 |
| Copiah | 499.9 | 296.7 | 59.4 |
| Covington | 266.2 | 163.1 | 61.3 |
| DeSoto | 305.9 | 64.8 | 21.2 |
| Forrest | 300.2 | 245.0 | 81.6 |
| Franklin | 363.5 | 270.5 | 74.4 |
| George | 307.8 | 274.5 | 89.2 |
| Greene | 465.9 | 405.6 | 87.1 |
| Grenada | 286.1 | 154.2 | 53.9 |
| Hancock | 310.4 | 222.1 | 71.6 |
| Harrison | 374.4 | 314.5 | 84.0 |
| Hinds | 561.3 | 211.6 | 37.7 |
| Holmes | 489.0 | 178.6 | 36.5 |
| Humphreys | 262.4 | 97.6 | 37.2 |
| Issaquena | 265.6 | 167.4 | 63.0 |
| Itawamba | 346.2 | 208.3 | 60.2 |
| Jackson | 476.2 | 409.1 | 85.9 |
| Jasper | 437.1 | 273.8 | 62.6 |
| Jefferson | 332.8 | 196.6 | 59.1 |
| Jeff Davis | 265.0 | 164.2 | 62.0 |
| Jones | 451.8 | 301.7 | 66.8 |
| Kemper | 484.5 | 305.0 | 63.0 |
| Lafayette | 434.6 | 219.3 | 50.5 |
| Lamar | 320.0 | 267.7 | 83.7 |
| Lauderdale | 461.4 | 308.8 | 66.9 |
| Lawrence | 277.1 | 167.3 | 60.4 |
| Leake | 375.0 | 192.9 | 51.4 |
| Lee | 291.2 | 61.9 | 21.3 |
| Leflore | 376.3 | 111.7 | 29.7 |

Table 20.--Land area and commercial forest by county, 1946-48 1/ (Cont'd.)

| County | All land | Commercial forest | |
|---|---|---|---|
| | Thousand acres | Thousand acres | Percent |
| Lincoln | 375.0 | 228.6 | 61.0 |
| Lowndes | 325.1 | 116.6 | 35.9 |
| Madison | 480.6 | 145.8 | 30.3 |
| Marion | 352.0 | 238.9 | 67.9 |
| Marshall | 454.4 | 150.7 | 33.2 |
| Monroe | 492.2 | 225.6 | 45.8 |
| Montgomery | 257.9 | 146.5 | 56.8 |
| Neshoba | 363.5 | 204.2 | 56.2 |
| Newton | 371.2 | 203.0 | 54.7 |
| Noxubee | 444.8 | 197.6 | 44.4 |
| Oktibbeha | 290.6 | 122.3 | 42.1 |
| Panola | 450.6 | 182.9 | 40.6 |
| Pearl River | 530.0 | 399.5 | 75.4 |
| Perry | 417.9 | 350.9 | 84.0 |
| Pike | 262.4 | 126.7 | 48.3 |
| Pontotoc | 320.6 | 132.3 | 41.3 |
| Prentiss | 267.5 | 113.7 | 42.5 |
| Quitman | 263.7 | 88.4 | 33.5 |
| Rankin | 512.0 | 337.1 | 65.8 |
| Scott | 393.6 | 239.6 | 60.9 |
| Sharkey | 279.0 | 157.9 | 56.6 |
| Simpson | 375.7 | 241.3 | 64.2 |
| Smith | 410.9 | 231.2 | 56.3 |
| Stone | 286.7 | 257.1 | 89.7 |
| Sunflower | 443.5 | 65.9 | 14.9 |
| Tallahatchie | 412.2 | 163.8 | 39.7 |
| Tate | 263.0 | 69.2 | 26.3 |
| Tippah | 297.0 | 130.1 | 43.8 |
| Tishomingo | 288.6 | 173.9 | 60.3 |
| Tunica | 293.1 | 113.5 | 38.7 |
| Union | 270.1 | 96.0 | 35.5 |
| Walthall | 257.9 | 156.0 | 60.5 |
| Warren | 362.2 | 262.9 | 72.6 |
| Washington | 465.9 | 113.7 | 24.4 |
| Wayne | 529.3 | 408.7 | 77.2 |
| Webster | 266.2 | 138.9 | 52.2 |
| Wilkinson | 432.0 | 321.4 | 74.4 |
| Winston | 387.8 | 233.7 | 60.3 |
| Yalobusha | 322.6 | 171.2 | 53.1 |
| Yazoo | 600.4 | 307.1 | 51.1 |
| All counties | 30,348.8 | 16,508.9 | 54.4 |

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1/ County data on sawlog and total growing stock, suitable for combining into county groups, are available as a supplement to this release.

Table 21.--Commercial forest land by stand size and forest type, by Survey region, 1946-48

| Forest type | All stand sizes | Large saw timber | Small saw timber | Cordwood | Seedling and sapling | Restocking and denuded |
|---|---|---|---|---|---|---|
| | - - - - - - - - - - | - -Thousand acres | - - - - - - - - - - | | | |
| | | | STATE | | | |
| Softwood types: | | | | | | |
| Loblolly-shortleaf pine | 5,174.3 | 439.8 | 1,631.0 | 2,074.8 | 652.9 | 375.8 |
| Longleaf-slash pine | 2,201.4 | 24.8 | 434.5 | 752.6 | 313.9 | 675.6 |
| Cedar | 51.8 | .. | .. | 14.7 | 9.0 | 28.1 |
| Total | 7,427.5 | 464.6 | 2,065.5 | 2,842.1 | 975.8 | 1,079.5 |
| Hardwood types: | | | | | | |
| Bottomland hardwood | 3,388.4 | 552.8 | 1,088.5 | 1,068.2 | 520.4 | 158.5 |
| Upland hardwood | 1,928.9 | 315.6 | 417.2 | 692.2 | 229.7 | 274.2 |
| Upland hardwood-pine | 3,764.1 | 333.6 | 707.2 | 1,803.7 | 532.3 | 387.3 |
| Total | 9,081.4 | 1,202.0 | 2,212.9 | 3,564.1 | 1,282.4 | 820.0 |
| All types | 16,508.9 | 1,666.6 | 4,278.4 | 6,406.2 | 2,258.2 | 1,899.5 |
| | | | NORTH | | | |
| Softwood types: | | | | | | |
| Loblolly-shortleaf pine | 1,009.8 | 32.4 | 176.7 | 585.0 | 162.9 | 52.8 |
| Cedar | 17.7 | .. | .. | .. | .. | 17.7 |
| Total | 1,027.5 | 32.4 | 176.7 | 585.0 | 162.9 | 70.5 |
| Hardwood types: | | | | | | |
| Bottomland hardwood | 541.9 | 41.9 | 178.0 | 262.6 | 56.3 | 3.1 |
| Upland hardwood | 935.1 | 79.6 | 192.7 | 472.7 | 145.2 | 44.9 |
| Upland hardwood-pine | 1,210.5 | 19.4 | 117.8 | 781.3 | 235.0 | 57.0 |
| Total | 2,687.5 | 140.9 | 488.5 | 1,516.6 | 436.5 | 105.0 |
| All types | 3,715.0 | 173.3 | 665.2 | 2,101.6 | 599.4 | 175.5 |
| | | | CENTRAL | | | |
| Softwood types: | | | | | | |
| Loblolly-shortleaf pine | 3,269.2 | 369.6 | 1,134.8 | 1,088.4 | 408.2 | 268.2 |
| Longleaf-slash pine | 135.6 | 9.5 | 33.8 | 50.1 | 21.9 | 20.3 |
| Cedar | 17.8 | .. | .. | 5.0 | 5.2 | 7.6 |
| Total | 3,422.6 | 379.1 | 1,168.6 | 1,143.5 | 435.3 | 296.1 |

Table 21.--Commercial forest land by stand size and forest type, by Survey region, 1946-48 (Cont'd.)

| Forest type | All stand sizes | Large saw timber | Small saw timber | Cordwood | Seedling and sapling | Restocking and denuded |
|---|---|---|---|---|---|---|
| | - - - - - - - - - - | - - - - | -Thousand acres | - - - - | - - - - | - - - - |
| | | | CENTRAL (Cont'd.) | | | |
| Hardwood types: | | | | | | |
| Bottomland hardwood | 701.9 | 248.0 | 227.7 | 194.6 | 15.4 | 16.2 |
| Upland hardwood | 445.8 | 131.5 | 129.4 | 114.1 | 40.5 | 30.3 |
| Upland hardwood-pine | 1,437.3 | 273.8 | 436.7 | 565.9 | 97.9 | 63.0 |
| Total | 2,585.0 | 653.3 | 793.8 | 874.6 | 153.8 | 109.5 |
| All types | 6,007.6 | 1,032.4 | 1,962.4 | 2,018.1 | 589.1 | 405.6 |
| | | | SOUTH | | | |
| Softwood types: | | | | | | |
| Loblolly-shortleaf pine | 853.3 | 33.0 | 311.2 | 374.9 | 81.8 | 52.4 |
| Longleaf-slash pine | 2,065.8 | 15.3 | 400.7 | 702.5 | 292.0 | 655.3 |
| Total | 2,919.1 | 48.3 | 711.9 | 1,077.4 | 373.8 | 707.7 |
| Hardwood types: | | | | | | |
| Bottomland hardwood | 543.1 | 50.8 | 195.5 | 198.4 | 55.7 | 42.7 |
| Upland hardwood | 246.3 | 3.9 | 5.7 | 19.3 | 29.6 | 187.8 |
| Upland hardwood-pine | 1,037.4 | 27.9 | 134.3 | 417.5 | 192.8 | 264.9 |
| Total | 1,826.8 | 82.6 | 335.5 | 635.2 | 278.1 | 495.4 |
| All types | 4,745.9 | 130.9 | 1,047.4 | 1,712.6 | 651.9 | 1,203.1 |
| | | | DELTA | | | |
| Softwood types: | | | | | | |
| Loblolly-shortleaf pine | 42.0 | 4.8 | 8.3 | 26.5 | .. | 2.4 |
| Cedar | 16.3 | .. | .. | 9.7 | 3.8 | 2.8 |
| Total | 58.3 | 4.8 | 8.3 | 36.2 | 3.8 | 5.2 |
| Hardwood types: | | | | | | |
| Bottomland hardwood | 1,601.5 | 212.1 | 487.3 | 412.6 | 393.0 | 96.5 |
| Upland hardwood | 301.7 | 100.6 | 89.4 | 86.1 | 14.4 | 11.2 |
| Upland hardwood-pine | 78.9 | 12.5 | 18.4 | 39.0 | 6.6 | 2.4 |
| Total | 1,982.1 | 325.2 | 595.1 | 537.7 | 414.0 | 110.1 |
| All types | 2,040.4 | 330.0 | 603.4 | 573.9 | 417.8 | 115.3 |

Table 22.--Commercial forest land by degree of tree stocking and forest type, by Survey region, 1946-48

| Forest type | All stocking | Well stocked | Partially stocked | Poorly stocked | Non-stocked |
|---|---|---|---|---|---|
| | - - - - - - - - | - -Thousand | acres - - | - - - - - - | - - |
| | | | STATE | | |
| Softwood types: | | | | | |
| Loblolly-shortleaf pine | 5,174.3 | 2,145.3 | 1,947.7 | 970.8 | 110.5 |
| Longleaf-slash pine | 2,201.4 | 249.6 | 719.5 | 772.3 | 460.0 |
| Cedar | 51.8 | 5.9 | 14.0 | 31.9 | .. |
| Total | 7,427.5 | 2,400.8 | 2,681.2 | 1,775.0 | 570.5 |
| Hardwood types: | | | | | |
| Bottomland hardwood | 3,388.4 | 1,195.6 | 1,588.3 | 482.0 | 122.5 |
| Upland hardwood | 1,928.9 | 728.6 | 700.8 | 331.1 | 168.4 |
| Upland hardwood-pine | 3,764.1 | 1,220.0 | 1,649.9 | 728.2 | 166.0 |
| Total | 9,081.4 | 3,144.2 | 3,939.0 | 1,541.3 | 456.9 |
| All types | 16,508.9 | 5,545.0 | 6,620.2 | 3,316.3 | 1,027.4 |
| | | | NORTH | | |
| Softwood types: | | | | | |
| Loblolly-shortleaf pine | 1,009.8 | 372.5 | 409.0 | 208.8 | 19.5 |
| Cedar | 17.7 | .. | .. | 17.7 | .. |
| Total | 1,027.5 | 372.5 | 409.0 | 226.5 | 19.5 |
| Hardwood types: | | | | | |
| Bottomland hardwood | 541.9 | 261.9 | 211.5 | 66.3 | 2.2 |
| Upland hardwood | 935.1 | 394.3 | 355.5 | 168.6 | 16.7 |
| Upland hardwood-pine | 1,210.5 | 382.2 | 613.7 | 209.2 | 5.4 |
| Total | 2,687.5 | 1,038.4 | 1,180.7 | 444.1 | 24.3 |
| All types | 3,715.0 | 1,410.9 | 1,589.7 | 670.6 | 43.8 |
| | | | CENTRAL | | |
| Softwood types: | | | | | |
| Loblolly-shortleaf pine | 3,269.2 | 1,421.5 | 1,202.0 | 565.1 | 80.6 |
| Longleaf-slash pine | 135.6 | 11.5 | 73.7 | 36.6 | 13.8 |
| Cedar | 17.8 | .. | 10.2 | 7.6 | .. |
| Total | 3,422.6 | 1,433.0 | 1,285.9 | 609.3 | 94.4 |

Table 22.--Commercial forest land by degree of tree stocking and forest type, by Survey region, 1946-48 (Cont'd.)

| Forest type | All stocking | Well stocked | Partially stocked | Poorly stocked | Non-stocked |
|---|---|---|---|---|---|
| | - - - - - - - - | Thousand acres | - - - - - - - - | | |
| | | | CENTRAL (Cont'd.) | | |
| Hardwood types: | | | | | |
| Bottomland hardwood | 701.9 | 314.8 | 266.4 | 104.5 | 16.2 |
| Upland hardwood | 445.8 | 183.9 | 184.8 | 63.5 | 13.6 |
| Upland hardwood-pine | 1,437.3 | 573.9 | 627.6 | 219.6 | 16.2 |
| Total | 2,585.0 | 1,072.6 | 1,078.8 | 387.6 | 46.0 |
| All types | 6,007.6 | 2,505.6 | 2,364.7 | 996.9 | 140.4 |
| | | | SOUTH | | |
| Softwood types: | | | | | |
| Loblolly-shortleaf pine | 853.3 | 324.5 | 336.7 | 184.1 | 8.0 |
| Longleaf-slash pine | 2,065.8 | 238.1 | 645.8 | 735.7 | 446.2 |
| Total | 2,919.1 | 562.6 | 982.5 | 919.8 | 454.2 |
| Hardwood types: | | | | | |
| Bottomland hardwood | 543.1 | 143.9 | 229.1 | 144.3 | 25.8 |
| Upland hardwood | 246.3 | 8.9 | 36.5 | 62.8 | 138.1 |
| Upland hardwood-pine | 1,037.4 | 222.0 | 374.0 | 299.4 | 142.0 |
| Total | 1,826.8 | 374.8 | 639.6 | 506.5 | 305.9 |
| All types | 4,745.9 | 937.4 | 1,622.1 | 1,426.3 | 760.1 |
| | | | DELTA | | |
| Softwood types: | | | | | |
| Loblolly-shortleaf pine | 42.0 | 26.8 | .. | 12.8 | 2.4 |
| Cedar | 16.3 | 5.9 | 3.8 | 6.6 | .. |
| Total | 58.3 | 32.7 | 3.8 | 19.4 | 2.4 |
| Hardwood types: | | | | | |
| Bottomland hardwood | 1,601.5 | 475.0 | 881.3 | 166.9 | 78.3 |
| Upland hardwood | 301.7 | 141.5 | 124.0 | 36.2 | .. |
| Upland hardwood-pine | 78.9 | 41.9 | 34.6 | .. | 2.4 |
| Total | 1,982.1 | 658.4 | 1,039.9 | 203.1 | 80.7 |
| All types | 2,040.4 | 691.1 | 1,043.7 | 222.5 | 83.1 |

Table 23.--Area of saw timber stands by stand quality and forest type, by Survey region, 1946-48

| Forest type | All qualities | Fair or better | Poor |
|---|---|---|---|
| | ------Thousand acres------ | | |
| | | STATE | |
| Softwood types: | | | |
| Loblolly-shortleaf pine | 2,070.8 | 1,201.0 | 869.8 |
| Longleaf-slash pine | 459.3 | 176.5 | 282.8 |
| Total | 2,530.1 | 1,377.5 | 1,152.6 |
| Hardwood types: | | | |
| Bottomland hardwood | 1,641.3 | 1,126.4 | 514.9 |
| Upland hardwood | 732.8 | 481.2 | 251.6 |
| Upland hardwood-pine | 1,040.8 | 578.8 | 462.0 |
| Total | 3,414.9 | 2,186.4 | 1,228.5 |
| All types | 5,945.0 | 3,563.9 | 2,381.1 |
| | | NORTH | |
| Softwood types: | | | |
| Loblolly-shortleaf pine | 209.1 | 115.3 | 93.8 |
| Hardwood types: | | | |
| Bottomland hardwood | 219.9 | 128.7 | 91.2 |
| Upland hardwood | 272.3 | 180.5 | 91.8 |
| Upland hardwood-pine | 137.2 | 65.9 | 71.3 |
| Total | 629.4 | 375.1 | 254.3 |
| All types | 838.5 | 490.4 | 348.1 |
| | | CENTRAL | |
| Softwood types: | | | |
| Loblolly-shortleaf pine | 1,504.4 | 943.1 | 561.3 |
| Longleaf-slash pine | 43.3 | 30.5 | 12.8 |
| Total | 1,547.7 | 973.6 | 574.1 |

Table 23.--Area of saw timber stands by stand quality and forest type, by Survey region, 1946-48 (Cont'd.)

| Forest type | All qualities | Fair or better | Poor |
|---|---|---|---|
| | - - - - - - - Thousand acres | - - - - - - | |
| | CENTRAL (Cont'd.) | | |
| Hardwood types: | | | |
| Bottomland hardwood | 475.7 | 339.6 | 136.1 |
| Upland hardwood | 260.9 | 185.2 | 75.7 |
| Upland hardwood-pine | 710.5 | 391.6 | 318.9 |
| Total | 1,447.1 | 916.4 | 530.7 |
| All types | 2,994.8 | 1,890.0 | 1,104.8 |
| | SOUTH | | |
| Softwood types: | | | |
| Loblolly-shortleaf pine | 344.2 | 142.6 | 201.6 |
| Longleaf-slash pine | 416.0 | 146.0 | 270.0 |
| Total | 760.2 | 288.6 | 471.6 |
| Hardwood types: | | | |
| Bottomland hardwood | 246.3 | 167.6 | 78.7 |
| Upland hardwood | 9.6 | 6.8 | 2.8 |
| Upland hardwood-pine | 162.2 | 90.4 | 71.8 |
| Total | 418.1 | 264.8 | 153.3 |
| All types | 1,178.3 | 553.4 | 624.9 |
| | DELTA | | |
| Softwood types: | | | |
| Loblolly-shortleaf pine | 13.1 | .. | 13.1 |
| Hardwood types: | | | |
| Bottomland hardwood | 699.4 | 490.5 | 208.9 |
| Upland hardwood | 190.0 | 108.7 | 81.3 |
| Upland hardwood-pine | 30.9 | 30.9 | .. |
| Total | 920.3 | 630.1 | 290.2 |
| All types | 933.4 | 630.1 | 303.3 |

Table 14.--Basal area per acre of growing stock,[1] by forest-type group, stand size, and tree diameter, 1946-48

| Diameter breast high (inches) | All types | | | Softwood | | | Bottomland hardwood | | | Upland hardwood 2/ | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Saw-timber stands | Cord-wood stands | Other stands | Saw-timber stands | Cord-wood stands | Other stands | Saw-timber stands | Cord-wood stands | Other stands | Saw-timber stands | Cord-wood stands | Other stands |
| | Square feet | | | | | | | | | | | |
| 2 | 4.4 | 3.9 | 4.1 | 5.5 | 4.3 | 4.0 | 2.6 | 3.6 | 6.6 | 4.5 | 3.5 | 3.0 |
| 4 | 5.8 | 6.2 | 4.0 | 7.5 | 7.3 | 3.9 | 4.0 | 5.3 | 4.9 | 5.3 | 5.3 | 3.7 |
| 6 | 6.0 | 6.9 | 1.5 | 7.9 | 9.1 | 1.6 | 4.4 | 6.0 | 1.4 | 4.8 | 4.9 | 1.4 |
| 8 | 7.4 | 6.9 | 1.1 | 9.3 | 7.5 | 1.1 | 6.0 | 7.3 | 1.7 | 6.1 | 6.4 | .9 |
| 10 | 8.0 | 5.0 | 1.0 | 10.0 | 4.7 | 1.0 | 6.4 | 5.5 | 1.1 | 6.8 | 5.2 | .9 |
| 12 | 8.7 | 3.1 | .8 | 10.0 | 2.6 | .7 | 7.4 | 3.4 | 1.1 | 7.9 | 3.5 | .8 |
| 14 | 7.9 | 2.1 | .5 | 7.9 | 1.6 | .4 | 8.2 | 2.7 | 1.2 | 7.5 | 2.3 | .4 |
| 16 | 5.9 | 1.3 | .5 | 5.5 | .8 | .2 | 6.9 | 2.3 | 1.2 | 5.6 | 1.3 | .4 |
| 18 | 4.6 | .7 | .3 | 3.5 | .4 | (3/) | 6.2 | 1.3 | .9 | 4.7 | .7 | .3 |
| 20 | 3.1 | .4 | .2 | 2.0 | .2 | .1 | 4.4 | .9 | .8 | 3.5 | .4 | .1 |
| 22 | 2.1 | .2 | .1 | 1.2 | .1 | (3/) | 3.0 | .4 | .6 | 2.5 | .2 | (3/) |
| 24 | 1.4 | .2 | .1 | .6 | .1 | .. | 2.7 | .6 | .5 | 1.4 | .1 | .. |
| 26 | .8 | .1 | .1 | .3 | .. | .. | 1.5 | .4 | .3 | .9 | (3/) | .. |
| 28 | .7 | (3/) | .1 | .2 | .. | .. | 1.5 | .1 | .3 | .6 | .1 | .. |
| 30 | .5 | (3/) | .. | .1 | .. | .. | 1.2 | .1 | .. | .4 | (3/) | .. |
| 32 | .2 | (3/) | .. | (3/) | .. | .. | .3 | .. | .. | .3 | (3/) | .. |
| 34 | .2 | (3/) | .. | .1 | .. | .. | .4 | .1 | .. | .2 | .. | .. |
| 36 | .3 | (3/) | (3/) | (3/) | .. | .. | .7 | .. | .. | .3 | (3/) | .1 |
| 38 | .1 | .. | .. | .. | .. | .. | .4 | .. | .. | .. | .. | .. |
| 40 | .1 | .. | .. | .. | .. | .. | .3 | .. | .. | .. | .. | .. |
| 42 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| 46 | 3/ | .. | .. | .. | .. | .. | .1 | .. | .. | .. | .. | .. |
| 48 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Total | 68.2 | 37.0 | 14.4 | 71.6 | 38.7 | 13.0 | 68.6 | 40.0 | 22.6 | 63.3 | 33.9 | 12.0 |

1/ Includes sound, well-formed 2- and 4-inch trees.
2/ Includes the upland hardwood-pine type.
3/ Negligible.

## Table 25.--Basal area per acre of growing stock [1] and cull trees by forest-type group and Survey region, 1946-48

| Forest type | State | North | Central | South | Delta |
|---|---|---|---|---|---|
| | | | Square feet | | |
| Softwood types: | | | | | |
| Growing stock | 43.4 | 37.3 | 54.3 | 29.1 | 37.9 |
| Cull trees | 7.1 | 8.2 | 7.1 | 6.6 | 6.9 |
| Total | 50.5 | 45.5 | 61.4 | 35.7 | 44.8 |
| Bottomland hardwood: | | | | | |
| Growing stock | 50.5 | 39.5 | 70.5 | 45.7 | 46.6 |
| Cull trees | 26.1 | 25.0 | 22.1 | 46.4 | 23.2 |
| Total | 76.6 | 64.5 | 92.6 | 92.1 | 69.8 |
| Upland hardwood: [2] | | | | | |
| Growing stock | 38.5 | 30.8 | 53.9 | 19.8 | 53.4 |
| Cull trees | 14.6 | 16.3 | 13.1 | 12.9 | 16.7 |
| Total | 53.1 | 47.1 | 67.0 | 32.7 | 70.1 |
| All growing stock and cull trees | 57.0 | 49.2 | 66.8 | 41.3 | 69.2 |

[1] Includes sound, well-formed 2- and 4-inch trees.

[2] Includes upland hardwood-pine.

Table 26.--Distribution of total growing stock by species within each forest type, 1946-48

| Species | All types[1] | Loblolly-shortleaf pine | Longleaf-slash pine | Bottom-land hardwood | Upland hard-wood | Upland hardwood-pine |
|---|---|---|---|---|---|---|
| | - - - - - - - - - - - - - | - - - - - - - - | Percent | - - - - - - - - | - - - - - - - | - - - - - - - |
| Softwood: | | | | | | |
| Loblolly pine | 18.6 | 42.9 | 3.4 | 1.2 | .. | 7.3 |
| Shortleaf pine | 12.2 | 27.7 | 1.5 | .1 | .3 | 6.9 |
| Longleaf pine | 5.0 | 1.0 | 48.1 | .1 | .. | 1.4 |
| Slash pine | 4.0 | .6 | 38.6 | .5 | .. | .8 |
| Other pine | 1.3 | 1.9 | 0.1 | 1.4 | .. | 1.5 |
| Cypress | 2.1 | (2/) | .2 | 8.4 | .1 | (2/) |
| Cedar | .1 | .1 | .. | (2/) | .2 | .1 |
| Total | 43.3 | 74.2 | 91.9 | 11.7 | .6 | 18.0 |
| Hardwood: | | | | | | |
| Southern red, black, and scarlet oaks | 5.5 | 4.4 | 2.4 | .5 | 13.4 | 12.4 |
| Cherrybark, Shumard, and northern red oaks | 1.7 | .8 | .. | 1.1 | 4.8 | 3.5 |
| Water oaks | 5.8 | 1.7 | .5 | 13.5 | 7.6 | 6.3 |
| White oak | 3.6 | 2.4 | .3 | .. | 9.7 | 9.4 |
| Other white oaks | 5.6 | 3.7 | .8 | 7.8 | 6.9 | 8.3 |
| Sweetgum | 11.7 | 6.3 | .4 | 16.7 | 21.3 | 17.2 |
| Black and tupelo gums | 4.6 | 2.0 | 2.4 | 9.6 | 3.9 | 5.0 |
| Cottonwood | 1.1 | .. | .. | 4.2 | .3 | (2/) |
| Willow | 1.8 | .1 | .. | 7.1 | .1 | .1 |
| Pecan | 1.4 | (2/) | .. | 5.7 | .. | .1 |
| Other hickories | 4.0 | 1.9 | .3 | 2.4 | 10.8 | 8.7 |
| Elms | 2.2 | .3 | .. | 5.1 | 4.1 | 2.2 |
| Red maple | .5 | .2 | (2/) | 1.0 | .9 | .8 |
| Yellow-poplar | 1.5 | .7 | .3 | 1.2 | 3.7 | 2.9 |
| Sycamore | .7 | (2/) | .. | 1.8 | 1.5 | .5 |
| Ash | 1.0 | .1 | .. | 2.8 | 1.2 | .7 |
| Beech | 1.0 | .3 | .. | 1.0 | 3.7 | 1.7 |
| Sweetbay and magnolia | 1.1 | .5 | .6 | 2.1 | 1.3 | 1.2 |
| Hackberry | .6 | (2/) | .. | 2.3 | .3 | .2 |
| Other | 1.3 | .4 | .1 | 2.4 | 3.9 | .8 |
| Total | 56.7 | 25.8 | 8.1 | 88.3 | 99.4 | 82.0 |
| All species | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

1/ Cedar type included.
2/ Negligible.

Table 27.--Total growing stock by species and Survey region, 1946-48

| Species | State | North | Central | South | Delta |
|---|---|---|---|---|---|
| | Million cubic feet | | | | |
| Softwood: | | | | | |
| Loblolly pine | 1,427.4 | 87.4 | 1,022.7 | 315.8 | 1.5 |
| Shortleaf pine | 935.3 | 266.0 | 542.1 | 113.0 | 14.2 |
| Longleaf pine | 384.9 | .. | 68.3 | 316.6 | .. |
| Slash pine | 308.2 | .. | 1.8 | 306.4 | .. |
| Other pine | 102.9 | .. | 48.4 | 54.5 | .. |
| Cypress | 163.7 | 14.9 | 32.0 | 8.3 | 108.5 |
| Cedar | 8.5 | 2.1 | 3.1 | .. | 3.3 |
| Total | 3,330.9 | 370.4 | 1,718.4 | 1,114.6 | 127.5 |
| Hardwood: | | | | | |
| Southern red, black, and scarlet oaks | 422.6 | 145.0 | 193.3 | 62.7 | 21.6 |
| Cherrybark, Shumard, and northern red oaks | 127.2 | 20.8 | 82.0 | 5.6 | 18.8 |
| Water oaks | 453.7 | 54.5 | 196.5 | 65.8 | 136.9 |
| White oak | 273.8 | 82.0 | 143.5 | 32.7 | 15.6 |
| Other white oaks | 428.8 | 110.2 | 189.2 | 31.3 | 98.1 |
| Sweetgum | 900.0 | 167.2 | 524.1 | 74.6 | 134.1 |
| Black and tupelo gums | 355.8 | 25.4 | 145.7 | 138.7 | 46.0 |
| Cottonwood | 83.2 | 4.5 | 29.4 | 7.7 | 41.6 |
| Willow | 140.0 | 17.1 | 40.3 | 0.4 | 82.2 |
| Pecan | 110.2 | 0.9 | 21.2 | 0.2 | 87.9 |
| Other hickories | 304.2 | 87.8 | 164.8 | 28.1 | 23.5 |
| Elms | 168.3 | 30.6 | 69.6 | 3.6 | 64.5 |
| Red maple | 40.6 | 9.4 | 18.9 | 6.3 | 6.0 |
| Yellow-poplar | 113.2 | 14.1 | 53.2 | 34.5 | 11.4 |
| Sycamore | 52.3 | 16.3 | 21.6 | 1.8 | 12.6 |
| Ash | 75.5 | 8.0 | 34.9 | 3.5 | 29.1 |
| Beech | 79.6 | 8.8 | 50.6 | 8.7 | 11.5 |
| Sweetbay and magnolia | 84.1 | 1.2 | 31.4 | 50.7 | .8 |
| Hackberry | 49.8 | 4.7 | 13.3 | 2.2 | 29.6 |
| Other | 98.5 | 10.2 | 42.2 | 7.9 | 38.2 |
| Total | 4,361.4 | 818.7 | 2,065.7 | 567.0 | 910.0 |
| All species | 7,692.3 | 1,189.1 | 3,784.1 | 1,681.6 | 1,037.5 |

Table 28.--Total volume by class of timber and species, by Survey region, 1946-48

| Species | All timber | Growing stock: All trees 1/ | Growing stock: Sawlog trees | Growing stock: Cordwood trees | Tops and limbs | Cull trees |
|---|---|---|---|---|---|---|
| | Million cubic feet | | | | | |
| | | | STATE | | | |
| Softwood: | | | | | | |
| Loblolly pine | 1,465.1 | 1,427.4 | 927.4 | 282.9 | .. | 37.7 |
| Shortleaf pine | 972.5 | 935.3 | 462.8 | 351.4 | .. | 37.2 |
| Longleaf pine | 391.1 | 384.9 | 237.1 | 84.0 | .. | 6.2 |
| Slash pine | 319.3 | 308.2 | 193.0 | 67.8 | .. | 11.1 |
| Other pine | 109.6 | 102.9 | 72.5 | 14.0 | .. | 6.7 |
| Other softwood | 185.5 | 172.2 | 127.5 | 12.2 | .. | 13.3 |
| Total | 3,443.1 | 3,330.9 | 2,020.3 | 812.3 | .. | 112.2 |
| Hardwood: | | | | | | |
| Red oaks | 1,751.9 | 1,003.5 | 651.5 | 352.0 | 402.5 | 345.9 |
| White oaks | 1,215.8 | 702.6 | 400.2 | 302.4 | 248.3 | 264.9 |
| Sweetgum | 1,327.4 | 900.0 | 495.1 | 404.9 | 245.7 | 181.7 |
| Black and tupelo gum | 708.2 | 355.8 | 203.7 | 152.1 | 116.0 | 236.4 |
| Other hardwood | 3,108.1 | 1,399.5 | 918.2 | 481.3 | 546.1 | 1,162.5 |
| Total | 8,111.4 | 4,361.4 | 2,668.7 | 1,692.7 | 1,558.6 | 2,191.4 |
| All species | 11,554.5 | 7,692.3 | 4,689.0 | 2,505.0 | 1,558.6 | 2,303.6 |
| | | | NORTH | | | |
| Softwood: | | | | | | |
| Loblolly pine | 96.5 | 87.4 | 46.7 | 27.1 | .. | 9.1 |
| Shortleaf pine | 291.4 | 266.0 | 124.8 | 104.3 | .. | 25.4 |
| Other softwood | 18.5 | 17.0 | 11.5 | 2.2 | .. | 1.5 |
| Total | 406.4 | 370.4 | 183.0 | 133.6 | .. | 36.0 |
| Hardwood: | | | | | | |
| Red oaks | 395.4 | 220.3 | 132.5 | 87.8 | 80.2 | 94.9 |
| White oaks | 352.5 | 192.2 | 101.1 | 91.1 | 61.7 | 98.6 |
| Sweetgum | 278.1 | 167.2 | 84.5 | 82.7 | 42.3 | 68.6 |
| Black and tupelo gum | 67.5 | 25.4 | 13.6 | 11.8 | 8.6 | 33.5 |
| Other hardwood | 549.4 | 213.6 | 118.5 | 95.1 | 73.6 | 262.2 |
| Total | 1,642.9 | 818.7 | 450.2 | 368.5 | 266.4 | 557.8 |
| All species | 2,049.3 | 1,189.1 | 633.2 | 502.1 | 266.4 | 593.8 |
| | | | CENTRAL | | | |
| Softwood: | | | | | | |
| Loblolly pine | 1,037.1 | 1,022.7 | 656.6 | 213.2 | .. | 14.4 |
| Shortleaf pine | 548.5 | 542.1 | 268.3 | 209.0 | .. | 6.4 |
| Longleaf pine | 68.9 | 68.3 | 44.8 | 14.0 | .. | .6 |
| Slash pine | 1.8 | 1.8 | 1.4 | .2 | .. | .. |
| Other pine | 51.4 | 48.4 | 32.9 | 7.7 | .. | 3.0 |
| Other softwood | 39.0 | 35.1 | 23.6 | 3.9 | .. | 3.9 |
| Total | 1,746.7 | 1,718.4 | 1,027.6 | 448.0 | .. | 28.3 |

Table 28.--Total volume by class of timber and species, by Survey region, 1946-48 (Cont'd.)

| Species | Growing stock |  |  |  | Tops and limbs | Cull trees |
|---|---|---|---|---|---|---|
|  | All timber | All trees[1] | Sawlog trees | Cordwood |  |  |
|  | - - - - - - - Million cubic feet - - - - - - - - |  |  |  |  |  |
|  | CENTRAL (Cont'd.) |  |  |  |  |  |
| Hardwood: |  |  |  |  |  |  |
| Red oaks | 751.0 | 471.8 | 304.1 | 167.7 | 181.6 | 97.6 |
| White oaks | 489.3 | 332.7 | 171.9 | 160.8 | 98.6 | 58.0 |
| Sweetgum | 712.7 | 524.1 | 273.3 | 250.8 | 131.0 | 57.6 |
| Black and tupelo gum | 232.1 | 145.7 | 78.9 | 66.8 | 42.0 | 44.4 |
| Other hardwood | 1,112.7 | 591.4 | 381.1 | 210.3 | 222.9 | 298.4 |
| Total | 3,297.8 | 2,065.7 | 1,209.3 | 856.4 | 676.1 | 556.0 |
| All species | 5,044.5 | 3,784.1 | 2,236.9 | 1,304.4 | 676.1 | 584.3 |
|  | SOUTH |  |  |  |  |  |
| Softwood: |  |  |  |  |  |  |
| Loblolly pine | 329.6 | 315.8 | 223.5 | 41.9 | .. | 13.8 |
| Shortleaf pine | 118.0 | 113.0 | 62.1 | 33.9 | .. | 5.0 |
| Longleaf pine | 322.2 | 316.6 | 192.3 | 70.0 | .. | 5.6 |
| Slash pine | 317.5 | 306.4 | 191.6 | 67.6 | .. | 11.1 |
| Other pine | 58.2 | 54.5 | 39.6 | 6.3 | .. | 3.7 |
| Other softwood | 12.2 | 8.3 | 6.0 | 0.4 | .. | 3.9 |
| Total | 1,157.7 | 1,114.6 | 715.1 | 220.1 | .. | 43.1 |
| Hardwood: |  |  |  |  |  |  |
| Red oaks | 277.6 | 134.1 | 79.2 | 54.9 | 54.6 | 88.9 |
| White oaks | 119.5 | 64.0 | 35.8 | 28.2 | 22.0 | 33.5 |
| Sweetgum | 126.2 | 74.6 | 43.0 | 31.6 | 21.8 | 29.8 |
| Black and tupelo gum | 320.5 | 138.7 | 77.3 | 61.4 | 46.9 | 134.9 |
| Other hardwood | 519.4 | 155.6 | 101.0 | 54.6 | 59.3 | 304.5 |
| Total | 1,363.2 | 567.0 | 336.3 | 230.7 | 204.6 | 591.6 |
| All species | 2,520.9 | 1,681.6 | 1,051.4 | 450.8 | 204.6 | 634.7 |
|  | DELTA |  |  |  |  |  |
| Softwood: |  |  |  |  |  |  |
| Loblolly pine | 1.9 | 1.5 | .6 | .7 | .. | .4 |
| Shortleaf pine | 14.6 | 14.2 | 7.6 | 4.2 | .. | .4 |
| Other softwood | 115.8 | 111.8 | 86.4 | 5.7 | .. | 4.0 |
| Total | 132.3 | 127.5 | 94.6 | 10.6 | .. | 4.8 |
| Hardwood: |  |  |  |  |  |  |
| Red oaks | 327.9 | 177.3 | 135.7 | 41.6 | 86.1 | 64.5 |
| White oaks | 254.5 | 113.7 | 91.4 | 22.3 | 66.0 | 74.8 |
| Sweetgum | 210.4 | 134.1 | 94.3 | 39.8 | 50.6 | 25.7 |
| Black and tupelo gums | 88.1 | 46.0 | 33.9 | 12.1 | 18.5 | 23.6 |
| Other hardwood | 926.6 | 438.9 | 317.6 | 121.3 | 190.3 | 297.4 |
| Total | 1,807.5 | 910.0 | 672.9 | 237.1 | 411.5 | 486.0 |
| All species | 1,939.8 | 1,037.5 | 767.5 | 247.7 | 411.5 | 490.8 |

1/ Includes tops of softwoods.

Table 29.--Total growing stock by species and stand size, by Survey region, 1946-48

| Species | All stand sizes | Large saw timber | Small saw timber | Cordwood | Seedling and sapling | Restocking and denuded |
|---|---|---|---|---|---|---|
| | - - - - - - - - - | Million cubic feet | - - - - - - - - - | | | |
| | | | STATE | | | |
| Softwood: | | | | | | |
| Loblolly pine | 1,427.4 | 221.3 | 935.3 | 247.3 | 15.7 | 7.8 |
| Shortleaf pine | 935.3 | 83.7 | 495.2 | 330.3 | 18.9 | 7.2 |
| Longleaf pine | 384.9 | 24.3 | 207.2 | 116.9 | 16.5 | 20.0 |
| Slash pine | 308.2 | 8.2 | 199.7 | 85.8 | 9.5 | 5.0 |
| Other pine | 102.9 | 22.3 | 74.0 | 6.6 | .. | .. |
| Other softwood | 172.2 | 54.0 | 93.3 | 15.1 | 5.6 | 4.2 |
| Total | 3,330.9 | 413.8 | 2,004.7 | 802.0 | 66.2 | 44.2 |
| Hardwood: | | | | | | |
| Red oaks | 1,003.5 | 259.1 | 402.4 | 299.2 | 31.0 | 11.8 |
| White oaks | 702.6 | 134.6 | 301.6 | 241.3 | 18.9 | 6.2 |
| Sweetgum | 900.0 | 189.4 | 429.6 | 253.0 | 24.3 | 3.7 |
| Black and tupelo gums | 355.8 | 62.2 | 196.3 | 83.7 | 9.2 | 4.4 |
| Other hardwood | 1,399.5 | 354.2 | 681.5 | 304.7 | 41.4 | 17.7 |
| Total | 4,361.4 | 999.5 | 2,011.4 | 1,181.9 | 124.8 | 43.8 |
| All species | 7,692.3 | 1,413.3 | 4,016.1 | 1,983.9 | 191.0 | 88.0 |
| | | | NORTH | | | |
| Softwood: | | | | | | |
| Loblolly pine | 87.4 | 9.3 | 38.8 | 38.1 | 1.1 | .1 |
| Shortleaf pine | 266.0 | 16.4 | 105.9 | 133.1 | 8.6 | 2.0 |
| Other softwood | 17.0 | 1.2 | 11.2 | 4.4 | .1 | .1 |
| Total | 370.4 | 26.9 | 155.9 | 175.6 | 9.8 | 2.2 |
| Hardwood: | | | | | | |
| Red oaks | 220.3 | 33.5 | 71.4 | 111.2 | 4.1 | .1 |
| White oaks | 192.2 | 21.2 | 64.5 | 98.7 | 6.4 | 1.4 |
| Sweetgum | 167.2 | 21.8 | 67.6 | 73.1 | 4.2 | .5 |
| Black and tupelo gums | 25.4 | 3.1 | 7.7 | 12.9 | 1.5 | .2 |
| Other hardwood | 213.6 | 27.2 | 88.9 | 86.2 | 9.9 | 1.4 |
| Total | 818.7 | 106.8 | 300.1 | 382.1 | 26.1 | 3.6 |
| All species | 1,189.1 | 133.7 | 456.0 | 557.7 | 35.9 | 5.8 |
| | | | CENTRAL | | | |
| Softwood: | | | | | | |
| Loblolly pine | 1,022.7 | 186.9 | 671.8 | 147.3 | 11.3 | 5.4 |
| Shortleaf pine | 542.1 | 59.2 | 314.0 | 157.5 | 8.0 | 3.4 |
| Longleaf pine | 68.3 | 13.7 | 35.8 | 15.8 | 2.9 | .1 |
| Slash pine | 1.8 | .. | 1.8 | .. | .. | .. |
| Other pine | 48.4 | 17.0 | 28.3 | 3.1 | .. | .. |
| Other softwood | 35.1 | 13.8 | 19.4 | 1.5 | .2 | .2 |
| Total | 1,718.4 | 290.6 | 1,071.1 | 325.2 | 22.4 | 9.1 |

Table 29.--Total growing stock by species and stand size, by Survey region, 1946-48 (Cont'd.)

| Species | All stand sizes | Large saw timber | Small saw timber | Cordwood | Seedling and sapling | Restocking and denuded |
|---|---|---|---|---|---|---|
| | - - - - - - - - - | - - Million | cubic feet | - - - - - | - - - - - | - - - - - |
| | | | CENTRAL (Cont'd.) | | | |
| Hardwood: | | | | | | |
| Red oaks | 471.8 | 167.2 | 196.2 | 99.4 | 6.3 | 2.7 |
| White oaks | 332.7 | 79.1 | 152.7 | 93.8 | 5.2 | 1.9 |
| Sweetgum | 524.1 | 127.4 | 247.7 | 135.5 | 11.3 | 2.2 |
| Black and tupelo gums | 145.7 | 34.6 | 73.6 | 33.5 | 2.9 | 1.1 |
| Other hardwood | 591.4 | 218.1 | 268.9 | 93.2 | 9.3 | 1.9 |
| Total | 2,065.7 | 626.4 | 939.1 | 455.4 | 35.0 | 9.8 |
| All species | 3,784.1 | 917.0 | 2,010.2 | 780.6 | 57.4 | 18.9 |
| | | | SOUTH | | | |
| Softwood: | | | | | | |
| Loblolly pine | 315.8 | 25.0 | 224.4 | 60.8 | 3.3 | 2.3 |
| Shortleaf pine | 113.0 | 6.2 | 67.4 | 35.3 | 2.3 | 1.8 |
| Longleaf pine | 316.6 | 10.6 | 171.4 | 101.1 | 13.6 | 19.9 |
| Slash pine | 306.4 | 8.2 | 197.9 | 85.8 | 9.5 | 5.0 |
| Other pine | 54.5 | 5.3 | 45.7 | 3.5 | .. | .. |
| Other softwood | 8.3 | 0.1 | 0.8 | 3.8 | .. | 3.6 |
| Total | 1,114.6 | 55.4 | 707.6 | 290.3 | 28.7 | 32.6 |
| Hardwood: | | | | | | |
| Red oaks | 134.1 | 13.2 | 53.0 | 54.5 | 7.3 | 6.1 |
| White oaks | 64.0 | 7.5 | 28.8 | 26.2 | 1.5 | .. |
| Sweetgum | 74.6 | 12.3 | 37.6 | 21.3 | 2.6 | 0.8 |
| Black and tupelo gums | 138.7 | 6.3 | 95.2 | 31.0 | 3.9 | 2.3 |
| Other hardwood | 155.6 | 21.7 | 84.0 | 41.8 | 4.3 | 3.8 |
| Total | 567.0 | 61.0 | 298.6 | 174.8 | 19.6 | 13.0 |
| All species | 1,681.6 | 116.4 | 1,006.2 | 465.1 | 48.3 | 45.6 |
| | | | DELTA | | | |
| Softwood: | | | | | | |
| Loblolly pine | 1.5 | .1 | .3 | 1.1 | .. | .. |
| Shortleaf pine | 14.2 | 1.9 | 7.9 | 4.4 | .. | .. |
| Other softwood | 111.8 | 38.9 | 61.9 | 5.4 | 5.3 | .3 |
| Total | 127.5 | 40.9 | 70.1 | 10.9 | 5.3 | .3 |
| Hardwood: | | | | | | |
| Red oaks | 177.3 | 45.2 | 81.8 | 34.1 | 13.3 | 2.9 |
| White oaks | 113.7 | 26.8 | 55.6 | 22.6 | 5.8 | 2.9 |
| Sweetgum | 134.1 | 27.9 | 76.7 | 23.1 | 6.2 | .2 |
| Black and tupelo gums | 46.0 | 18.2 | 19.8 | 6.3 | .9 | .8 |
| Other hardwood | 438.9 | 87.2 | 239.7 | 83.5 | 17.9 | 10.6 |
| Total | 910.0 | 205.3 | 473.6 | 169.6 | 44.1 | 17.4 |
| All species | 1,037.5 | 246.2 | 543.7 | 180.5 | 49.4 | 17.7 |

Table 30.--Total growing stock by species group and class of ownership, 1946-48

| Ownership | All species | Softwood | Hardwood |
|---|---|---|---|
| | - - -Million | cubic feet | - - - |
| Private: | | | |
| Cotton, general, and cotton-vegetable farmer | 1,816.2 | 678.7 | 1,137.5 |
| Other farmer | 1,199.5 | 471.3 | 728.2 |
| Businessman, housewife, wage earner and professional worker | 2,171.9 | 882.0 | 1,289.9 |
| Lumber company | 709.0 | 349.4 | 359.6 |
| Pulp company | 368.2 | 237.0 | 131.2 |
| Other forest industry | 300.8 | 124.1 | 176.7 |
| Real estate company and land speculator | 51.5 | 19.3 | 32.2 |
| Miscellaneous | 122.4 | 52.8 | 69.6 |
| Total private | 6,739.5 | 2,814.6 | 3,924.9 |
| Public: | | | |
| National forest | 572.0 | 407.5 | 164.5 |
| County | 236.2 | 48.5 | 187.7 |
| Other public | 144.6 | 60.3 | 84.3 |
| Total public | 952.8 | 516.3 | 436.5 |
| All ownership | 7,692.3 | 3,330.9 | 4,361.4 |

Table 31.--Average volume per acre of total growing stock by stand size and forest type, 1946-48

| Forest type | All stand sizes | Large saw timber | Small saw timber | Cordwood | Seedling and sapling | Restocking and denuded |
|---|---|---|---|---|---|---|
| | - - - - - - - - | - - - - - - | -Cubic feet - | - - - - - - | - - - - - - | - - - - - - |
| Softwood: | | | | | | |
| Loblolly-shortleaf pine | 578 | 940 | 1,103 | 343 | 79 | 45 |
| Longleaf-slash pine | 315 | 948 | 964 | 267 | 80 | 35 |
| Cedar | 106 | .. | .. | 231 | 200 | 11 |
| Total | 497 | 940 | 1,073 | 322 | 81 | 38 |
| Hardwood: | | | | | | |
| Bottomland hardwood | 565 | 814 | 928 | 345 | 114 | 158 |
| Upland hardwood | 387 | 747 | 705 | 269 | 89 | 32 |
| Upland hardwood-pine | 357 | 871 | 699 | 285 | 61 | 35 |
| Total | 441 | 812 | 813 | 300 | 88 | 58 |
| All types | 466 | 848 | 939 | 310 | 85 | 46 |

Table 32.--Average volume per acre of total growing stock by Survey region and forest type, 1946-48

| Forest type | State | North | Central | South | Delta |
|---|---|---|---|---|---|
| | - - - - - - - | - - - | -Cubic feet - | - - - - | - - - - - |
| Softwood: | | | | | |
| Loblolly-shortleaf pine | 578 | 368 | 642 | 591 | 379 |
| Longleaf-slash pine | 315 | .. | 468 | 304 | .. |
| Cedar | 106 | (1/) | (1/) | .. | (1/) |
| Total | 497 | 362 | 633 | 388 | 338 |
| Hardwood: | | | | | |
| Bottomland hardwood | 565 | 423 | 827 | 541 | 505 |
| Upland hardwood | 387 | 312 | 583 | 78 | 581 |
| Upland hardwood-pine | 357 | 245 | 542 | 227 | 420 |
| Total | 441 | 304 | 626 | 300 | 513 |
| All types | 466 | 320 | 630 | 354 | 508 |

1/ Sample too small to permit regional breakdown.

Table 33.--Sawlog volume by species and Survey region, 1946-48

| Species | State | North | Central | South | Delta |
|---|---|---|---|---|---|
| | - - - - - - - | Million board feet | - - - - - - - | | |
| Softwood: | | | | | |
| Loblolly pine | 5,734.7 | 284.4 | 4,064.5 | 1,382.2 | 3.6 |
| Shortleaf pine | 2,785.4 | 748.1 | 1,618.7 | 372.2 | 46.4 |
| Longleaf pine | 1,431.5 | .. | 280.2 | 1,151.3 | .. |
| Slash pine | 1,157.2 | .. | 9.4 | 1,147.8 | .. |
| Other pine | 454.3 | .. | 206.4 | 247.9 | .. |
| Cypress | 802.4 | 70.9 | 138.0 | 37.1 | 556.4 |
| Cedar | 13.6 | 4.6 | 6.2 | .. | 2.8 |
| Total | 12,379.1 | 1,108.0 | 6,323.4 | 4,338.5 | 609.2 |
| Hardwood: | | | | | |
| Southern red, black, and scarlet oaks | 1,538.2 | 575.2 | 635.4 | 215.1 | 112.5 |
| Cherrybark, Shumard, and northern red oaks | 595.1 | 86.2 | 399.7 | 27.2 | 82.0 |
| Water oaks | 2,089.9 | 185.0 | 939.3 | 272.5 | 693.1 |
| White oak | 1,143.0 | 328.1 | 604.5 | 131.3 | 79.1 |
| Other white oaks | 1,382.8 | 300.2 | 474.0 | 92.7 | 515.9 |
| Sweetgum | 3,112.7 | 524.6 | 1,716.0 | 271.1 | 601.0 |
| Black and tupelo gums | 1,262.1 | 83.0 | 487.6 | 480.0 | 211.5 |
| Cottonwood | 454.0 | 24.8 | 175.3 | 37.7 | 216.2 |
| Willow | 532.8 | 50.2 | 219.3 | .. | 263.3 |
| Pecan | 607.0 | 5.2 | 127.2 | .9 | 473.7 |
| Other hickories | 1,175.4 | 301.1 | 638.7 | 132.8 | 102.8 |
| Elms | 664.4 | 116.5 | 206.9 | 9.4 | 331.6 |
| Red maple | 83.7 | 27.4 | 30.3 | 6.5 | 19.5 |
| Yellow-poplar | 499.5 | 45.8 | 242.1 | 145.9 | 65.7 |
| Sycamore | 214.1 | 60.0 | 99.7 | 2.7 | 51.7 |
| Ash | 294.5 | 21.9 | 110.0 | 20.9 | 141.7 |
| Beech | 462.1 | 43.0 | 302.0 | 48.8 | 68.3 |
| Sweetbay and magnolia | 364.7 | .8 | 146.9 | 211.9 | 5.1 |
| Hackberry | 198.1 | 13.3 | 39.2 | 10.6 | 135.0 |
| Other | 274.8 | 31.1 | 96.3 | 13.5 | 133.9 |
| Total | 16,948.9 | 2,823.4 | 7,690.4 | 2,131.5 | 4,303.6 |
| All species | 29,328.0 | 3,931.4 | 14,013.8 | 6,470.0 | 4,912.8 |

Table 34.--Sawlog volume by species and tree diameter, by Survey region, 1946-48

| Species | All diameter classes | 10-12 inches1/ | 14-18 inches | 20-24 inches | 26 inches and up |
|---|---|---|---|---|---|
| | - - - - - - - - | Million board feet | - - - - - - - | | |
| | | | STATE | | |
| Softwood: | | | | | |
| Loblolly pine | 5,734.7 | 2,157.8 | 2,731.2 | 740.0 | 105.7 |
| Shortleaf pine | 2,785.4 | 1,579.2 | 958.8 | 204.1 | 43.3 |
| Longleaf pine | 1,431.5 | 754.5 | 610.4 | 41.0 | 25.6 |
| Slash pine | 1,157.2 | 550.7 | 497.7 | 108.8 | .. |
| Other pine | 454.3 | 138.2 | 258.2 | 57.9 | .. |
| Other softwood | 816.0 | 96.1 | 244.6 | 139.7 | 335.6 |
| Total | 12,379.1 | 5,276.5 | 5,300.9 | 1,291.5 | 510.2 |
| Hardwood: | | | | | |
| Red oaks | 4,223.2 | 664.9 | 1,936.9 | 957.3 | 664.1 |
| White oaks | 2,525.8 | 501.8 | 1,188.5 | 542.9 | 292.6 |
| Sweetgum | 3,112.7 | 638.3 | 1,824.1 | 514.6 | 135.7 |
| Black and tupelo gums | 1,262.1 | 269.1 | 686.7 | 235.4 | 70.9 |
| Other hardwood | 5,825.1 | 887.9 | 2,897.8 | 1,480.5 | 558.9 |
| Total | 16,948.9 | 2,962.0 | 8,534.0 | 3,730.7 | 1,722.2 |
| All species | 29,328.0 | 8,238.5 | 13,834.9 | 5,022.2 | 2,232.4 |
| | | | NORTH | | |
| Softwood: | | | | | |
| Loblolly pine | 284.4 | 124.9 | 124.4 | 35.1 | .. |
| Shortleaf pine | 748.1 | 422.2 | 235.3 | 79.4 | 11.2 |
| Other softwood | 75.5 | 15.0 | 10.5 | 18.1 | 31.9 |
| Total | 1,108.0 | 562.1 | 370.2 | 132.6 | 43.1 |
| Hardwood: | | | | | |
| Red oaks | 846.4 | 186.8 | 436.9 | 138.3 | 84.4 |
| White oaks | 628.3 | 159.8 | 311.0 | 110.0 | 47.5 |
| Sweetgum | 524.6 | 132.5 | 308.4 | 83.7 | .. |
| Black and tupelo gums | 83.0 | 33.7 | 32.4 | 9.0 | 7.9 |
| Other hardwood | 741.1 | 164.9 | 401.3 | 148.9 | 26.0 |
| Total | 2,823.4 | 677.7 | 1,490.0 | 489.9 | 165.8 |
| All species | 3,931.4 | 1,239.8 | 1,860.2 | 622.5 | 208.9 |
| | | | CENTRAL | | |
| Softwood: | | | | | |
| Loblolly pine | 4,064.5 | 1,539.8 | 1,836.8 | 592.1 | 95.8 |
| Shortleaf pine | 1,618.7 | 906.7 | 582.2 | 97.7 | 32.1 |
| Longleaf pine | 280.2 | 106.7 | 129.0 | 36.6 | 7.9 |
| Slash pine | 9.4 | .. | .. | 9.4 | .. |
| Other pine | 206.4 | 67.9 | 104.5 | 34.0 | .. |
| Other softwood | 144.2 | 36.0 | 62.5 | 13.4 | 32.3 |
| Total | 6,323.4 | 2,657.1 | 2,715.0 | 783.2 | 168.1 |

Table 34.--Sawlog volume by species and tree diameter, by Survey region, 1946-48 (Cont'd.)

| Species | All diameter classes | 10-12 inches[1] | 14-18 inches | 20-24 inches | 26 inches and up |
|---|---|---|---|---|---|
| | - - - - - - - | - Million board feet | - - - - - - - | | |
| | | | CENTRAL (Cont'd.) | | |
| Hardwood: | | | | | |
| Red oaks | 1,974.4 | 288.7 | 923 2 | 451.4 | 311.1 |
| White oaks | 1,078.5 | 239.8 | 567.3 | 211.9 | 59.5 |
| Sweetgum | 1,716.0 | 359.6 | 1,019.5 | 278.0 | 58.9 |
| Black and tupelo gums | 487.6 | 104.7 | 265.9 | 92.2 | 24.8 |
| Other hardwood | 2,433.9 | 359.5 | 1,149.8 | 658.3 | 266.3 |
| Total | 7,690.4 | 1,352.3 | 3,925.7 | 1,691.8 | 720.6 |
| All species | 14,013.8 | 4,009.4 | 6,640.7 | 2,475.0 | 888.7 |
| | | | SOUTH | | |
| Softwood: | | | | | |
| Loblolly pine | 1,382.2 | 492.6 | 766.9 | 112.8 | 9.9 |
| Shortleaf pine | 372.2 | 227.9 | 123.4 | 20.9 | .. |
| Longleaf pine | 1,151.3 | 647.8 | 481.4 | 4.4 | 17.7 |
| Slash pine | 1,147.8 | 550.7 | 497.7 | 99.4 | .. |
| Other pine | 247.9 | 70.3 | 153.7 | 23.9 | .. |
| Other softwood | 37.1 | 9.3 | 10.9 | 16.9 | .. |
| Total | 4,338.5 | 1,998.6 | 2,034.0 | 278.3 | 27.6 |
| Hardwood: | | | | | |
| Red oaks | 514.8 | 97.1 | 226.6 | 112.3 | 78.8 |
| White oaks | 224.0 | 55.1 | 114.1 | 54.8 | .. |
| Sweetgum | 271.1 | 56.9 | 164.5 | 42.9 | 6.8 |
| Black and tupelo gums | 480.0 | 98.9 | 286.8 | 56.1 | 38.2 |
| Other hardwood | 641.6 | 99.5 | 375.4 | 121.4 | 45.3 |
| Total | 2,131.5 | 407.5 | 1,167.4 | 387.5 | 169.1 |
| All species | 6,470.0 | 2,406.1 | 3,201.4 | 665.8 | 196.7 |
| | | | DELTA | | |
| Softwood: | | | | | |
| Loblolly pine | 3.6 | 0.5 | 3.1 | .. | .. |
| Shortleaf pine | 46.4 | 22.4 | 17.9 | 6.1 | .. |
| Other softwood | 559.2 | 35.8 | 160.7 | 91.3 | 271.4 |
| Total | 609.2 | 58.7 | 181.7 | 97.4 | 271.4 |
| Hardwood: | | | | | |
| Red oaks | 887.6 | 92.3 | 350.2 | 255.3 | 189.8 |
| White oaks | 595.0 | 47.1 | 196.1 | 166.2 | 185.6 |
| Sweetgum | 601.0 | 89.3 | 331.7 | 110.0 | 70.0 |
| Black and tupelo gums | 211.5 | 31.8 | 101.6 | 78.1 | .. |
| Other hardwood | 2,008.5 | 264.0 | 971.3 | 551.9 | 221.3 |
| Total | 4,303.6 | 524.5 | 1,950.9 | 1,161.5 | 666.7 |
| All species | 4,912.8 | 583.2 | 2,132.6 | 1,258.9 | 938.1 |

1/ Hardwood sawlog volume not tallied in trees under 11.0 inches d.b.h.

Table 35.--Sawlog volume by species and stand size, by Survey region, 1946-48

| Species | All stand sizes | Large saw timber | Small saw timber | Cordwood | Seedling and sapling | Restock- and denuded |
|---|---|---|---|---|---|---|
| | - - - - - - - - - | - - Million | board feet | - - - - - - | - - - - - - | - - - - - - |
| | | | STATE | | | |
| Softwood: | | | | | | |
| Loblolly pine | 5,734.7 | 1,068.1 | 4,001.0 | 596.7 | 47.2 | 21.7 |
| Shortleaf pine | 2,785.4 | 376.6 | 1,816.6 | 537.9 | 39.2 | 15.1 |
| Longleaf pine | 1,431.5 | 130.2 | 897.3 | 302.4 | 45.2 | 56.4 |
| Slash pine | 1,157.2 | 42.6 | 813.3 | 254.3 | 31.2 | 15.8 |
| Other pine | 454.3 | 106.6 | 329.2 | 18.5 | .. | .. |
| Other softwood | 816.0 | 263.4 | 462.9 | 48.6 | 23.8 | 17.3 |
| Total | 12,379.1 | 1,987.5 | 8,320.3 | 1,758.4 | 186.6 | 126.3 |
| Hardwood: | | | | | | |
| Red oaks | 4,223.2 | 1,397.1 | 1,882.5 | 803.4 | 93.4 | 46.8 |
| White oaks | 2,525.8 | 657.4 | 1,226.7 | 563.5 | 52.8 | 25.4 |
| Sweetgum | 3,112.7 | 880.7 | 1,749.9 | 408.8 | 64.6 | 8.7 |
| Black and tupelo gums | 1,262.1 | 299.5 | 738.0 | 168.6 | 37.4 | 18.6 |
| Other hardwood | 5,825.1 | 1,788.5 | 2,975.4 | 818.9 | 149.6 | 92.7 |
| Total | 16,948.9 | 5,023.2 | 8,572.5 | 2,763.2 | 397.8 | 192.2 |
| All species | 29,328.0 | 7,010.7 | 16,892.8 | 4,521.6 | 584.4 | 318.5 |
| | | | NORTH | | | |
| Softwood: | | | | | | |
| Loblolly pine | 284.4 | 49.5 | 150.8 | 81.7 | 2.0 | .4 |
| Shortleaf pine | 748.1 | 86.3 | 405.8 | 235.4 | 18.5 | 2.1 |
| Other softwood | 75.5 | 5.8 | 56.6 | 12.3 | .5 | .3 |
| Total | 1,108.0 | 141.6 | 613.2 | 329.4 | 21.0 | 2.8 |
| Hardwood: | | | | | | |
| Red oaks | 846.4 | 192.8 | 353.6 | 288.2 | 11.8 | .. |
| White oaks | 628.3 | 106.4 | 276.4 | 232.0 | 8.4 | 5.1 |
| Sweetgum | 524.6 | 121.2 | 270.2 | 126.2 | 6.7 | .3 |
| Black and tupelo gums | 83.0 | 15.8 | 28.1 | 33.2 | 5.1 | .8 |
| Other hardwood | 741.1 | 129.6 | 329.7 | 233.8 | 41.1 | 6.9 |
| Total | 2,823.4 | 565.8 | 1,258.0 | 913.4 | 73.1 | 13.1 |
| All species | 3,931.4 | 707.4 | 1,871.2 | 1,242.8 | 94.1 | 15.9 |
| | | | CENTRAL | | | |
| Softwood: | | | | | | |
| Loblolly pine | 4,064.5 | 884.4 | 2,827.9 | 306.4 | 33.3 | 12.5 |
| Shortleaf pine | 1,618.7 | 253.9 | 1,121.6 | 221.8 | 13.1 | 8.3 |
| Longleaf pine | 280.2 | 76.4 | 156.5 | 38.8 | 8.1 | .4 |
| Slash pine | 9.4 | .. | 9.4 | .. | .. | .. |
| Other pine | 206.4 | 80.2 | 118.6 | 7.6 | .. | .. |
| Other softwood | 144.2 | 57.6 | 83.1 | 3.2 | .. | .3 |
| Total | 6,323.4 | 1,352.5 | 4,317.1 | 577.8 | 54.5 | 21.5 |

Table 35.--Sawlog volume by species and stand size, by Survey region, 1946-48 (Cont'd.)

| Species | All stand sizes | Large saw timber | Small saw timber | Cordwood | Seedling and sapling | Restocking and denuded |
|---|---|---|---|---|---|---|
| | - - - - - - - - - | - - - Million | board feet | - - - | - - - - | - - - - |
| | | | CENTRAL (Cont'd.) | | | |
| Hardwood: | | | | | | |
| Red oaks | 1,974.4 | 859.6 | 873.4 | 220.5 | 16.5 | 4.4 |
| White oaks | 1,078.5 | 362.9 | 553.7 | 148.6 | 10.7 | 2.6 |
| Sweetgum | 1,716.0 | 550.6 | 950.5 | 175.4 | 34.9 | 4.6 |
| Black and tupelo gums | 487.6 | 165.3 | 251.8 | 62.3 | 6.1 | 2.1 |
| Other hardwood | 2,433.9 | 1,083.0 | 1,119.7 | 210.3 | 16.4 | 4.5 |
| Total | 7,690.4 | 3,021.4 | 3,749.1 | 817.1 | 84.6 | 18.2 |
| All species | 14,013.8 | 4,373.9 | 8,066.2 | 1,394.9 | 139.1 | 39.7 |
| | | | SOUTH | | | |
| Softwood: | | | | | | |
| Loblolly pine | 1,382.2 | 134.2 | 1,020.3 | 207.0 | 11.9 | 8.8 |
| Shortleaf pine | 372.2 | 28.5 | 258.6 | 72.8 | 7.6 | 4.7 |
| Longleaf pine | 1,151.3 | 53.8 | 740.8 | 263.6 | 37.1 | 56.0 |
| Slash pine | 1,147.8 | 42.6 | 803.9 | 254.3 | 31.2 | 15.8 |
| Other pine | 247.9 | 26.4 | 210.6 | 10.9 | .. | .. |
| Other softwood | 37.1 | .2 | 3.7 | 16.5 | .. | 16.7 |
| Total | 4,338.5 | 285.7 | 3,037.9 | 825.1 | 87.8 | 102.0 |
| Hardwood: | | | | | | |
| Red oaks | 514.8 | 84.1 | 232.5 | 157.1 | 16.1 | 25.0 |
| White oaks | 224.0 | 42.3 | 99.1 | 79.4 | 3.2 | .. |
| Sweetgum | 271.1 | 72.5 | 145.8 | 45.7 | 3.3 | 3.8 |
| Black and tupelo gums | 480.0 | 32.5 | 354.9 | 59.2 | 21.0 | 12.4 |
| Other hardwood | 641.6 | 104.9 | 370.6 | 128.8 | 18.6 | 18.7 |
| Total | 2,131.5 | 336.3 | 1,202.9 | 470.2 | 62.2 | 59.9 |
| All species | 6,470.0 | 622.0 | 4,240.8 | 1,295.3 | 150.0 | 161.9 |
| | | | DELTA | | | |
| Softwood: | | | | | | |
| Loblolly pine | 3.6 | .. | 2.0 | 1.6 | .. | .. |
| Shortleaf pine | 46.4 | 7.9 | 30.6 | 7.9 | .. | .. |
| Other softwood | 559.2 | 199.8 | 319.5 | 16.6 | 23.3 | .. |
| Total | 609.2 | 207.7 | 352.1 | 26.1 | 23.3 | .. |
| Hardwood: | | | | | | |
| Red oaks | 887.6 | 260.6 | 423.0 | 137.6 | 49.0 | 17.4 |
| White oaks | 595.0 | 145.8 | 297.5 | 103.5 | 30.5 | 17.7 |
| Sweetgum | 601.0 | 136.4 | 383.4 | 61.5 | 19.7 | .. |
| Black and tupelo gums | 211.5 | 85.9 | 103.2 | 13.9 | 5.2 | 3.3 |
| Other hardwood | 2,008.5 | 471.0 | 1,155.4 | 246.0 | 73.5 | 62.6 |
| Total | 4,303.6 | 1,099.7 | 2,362.5 | 562.5 | 177.9 | 101.0 |
| All species | 4,912.8 | 1,307.4 | 2,714.6 | 588.6 | 201.2 | 101.0 |

Table 36.--Sawlog volume by species group and class of ownership, 1946-48

| Ownership | All species | Softwood | Hardwood |
|---|---|---|---|
| | Million board feet | | |
| Private: | | | |
| Cotton, general and cotton-vegetable farmer | 6,236.1 | 2,260.8 | 3,975.3 |
| Other farmer | 4,387.5 | 1,515.3 | 2,872.2 |
| Businessman, housewife, wage earner, and professional worker | 8,470.2 | 3,290.6 | 5,179.6 |
| Lumber company | 2,899.7 | 1,447.8 | 1,451.9 |
| Pulp company | 1,430.4 | 963.3 | 467.1 |
| Other forest industry | 1,099.4 | 448.2 | 651.2 |
| Real estate company and land speculator | 219.3 | 76.9 | 142.4 |
| Miscellaneous | 464.5 | 187.3 | 277.2 |
| Total private | 25,207.1 | 10,190.2 | 15,016.9 |
| Public: | | | |
| National forest | 2,602.8 | 1,758.1 | 844.7 |
| County | 945.5 | 175.4 | 770.1 |
| Other public | 572.6 | 255.4 | 317.2 |
| Total public | 4,120.9 | 2,188.9 | 1,932.0 |
| All ownership | 29,328.0 | 12,379.1 | 16,948.9 |

Table 37.--Sawlog volume by stand size and class of ownership, 1946-48

| Ownership | All stand sizes | Saw timber | Cordwood | Other |
|---|---|---|---|---|
| | Million board feet | | | |
| Private: | | | | |
| Cotton, general, and cotton-vegetable farmer | 6,236.1 | 4,736.8 | 1,331.4 | 167.9 |
| Other farmer | 4,387.5 | 3,570.5 | 629.0 | 188.0 |
| Businessman, housewife, wage earner, and professional worker | 8,470.2 | 6,681.4 | 1,493.5 | 295.3 |
| Lumber company | 2,899.7 | 2,537.2 | 260.1 | 102.4 |
| Pulp company | 1,430.4 | 1,284.2 | 126.8 | 19.4 |
| Other forest industry | 1,099.4 | 909.8 | 165.2 | 24.4 |
| Real estate company and land speculator | 219.3 | 197.7 | 18.1 | 3.5 |
| Miscellaneous | 464.5 | 336.7 | 101.9 | 25.9 |
| Total private | 25,207.1 | 20,254.3 | 4,126.0 | 826.8 |
| Public: | | | | |
| National forest | 2,602.8 | 2,312.3 | 250.0 | 40.5 |
| County | 945.5 | 856.4 | 62.0 | 27.1 |
| Other public | 572.6 | 480.5 | 83.6 | 8.5 |
| Total public | 4,120.9 | 3,649.2 | 395.6 | 76.1 |
| All ownership | 29,328.0 | 23,903.5 | 4,521.6 | 902.9 |

Table 38.--Average sawlog volume per acre by stand size and forest type, 1946-48

| Forest type | All stand sizes | Large saw timber | Small saw timber | Cordwood | Seedling and sapling | Restocking and denuded |
|---|---|---|---|---|---|---|
| | - - - - - - - - - - | - - - - - - - - - - | Board feet | - - - - - - - - - - | - - - - - - - - - - | |
| Softwood: | | | | | | |
| Loblolly-shortleaf pine | 2,013 | 4,266 | 4,292 | 659 | 200 | 104 |
| Longleaf-slash pine | 1,143 | 5,024 | 3,977 | 699 | 237 | 95 |
| Cedar | 166 | .. | .. | 483 | 167 | .. |
| Total | 1,742 | 4,306 | 4.226 | 669 | 212 | 95 |
| Hardwood: | | | | | | |
| Bottomland hardwood | 2,503 | 4,276 | 4,384 | 914 | 443 | 383 |
| Upland hardwood | 1,497 | 3,235 | 2,801 | 880 | 245 | 121 |
| Upland hardwood-pine | 1.333 | 4.872 | 3.144 | 574 | 170 | 110 |
| Total | 1,805 | 4,168 | 3,689 | 735 | 294 | 263 |
| All types | 1,776 | 4,207 | 3,948 | 706 | 259 | 168 |

Table 39.--Average sawlog volume per acre by Survey region and forest type, 1946-48

| Forest type | State | North | Central | South | Delta |
|---|---|---|---|---|---|
| | - - - - - - - - - - | - - - - - - - - - - | Board feet | - - - - - - - - - - | |
| Softwood: | | | | | |
| Loblolly-shortleaf pine | 2,013 | 1,021 | 2,252 | 2,307 | 1,219 |
| Longleaf-slash pine | 1,143 | .. | 1.773 | 1,102 | .. |
| Cedar | 166 | (1/) | (1/) | .. | (1/) |
| Total | 1,742 | 1,003 | 2,223 | 1,454 | 969 |
| Hardwood: | | | | | |
| Bottomland hardwood | 2,503 | 1,591 | 3,445 | 2,337 | 2,456 |
| Upland hardwood | 1,497 | 971 | 2,457 | 328 | 2,663 |
| Upland hardwood-pine | 1,333 | 934 | 2,013 | 843 | 1,518 |
| Total | 1,805 | 1,079 | 2,478 | 1,218 | 2.450 |
| All types | 1,776 | 1,058 | 2,333 | 1,363 | 2.408 |

1/ Sample too small to permit regional breakdown.

Table 40.--Sawlog volume by softwood tree grade, hardwood log grade, and stand quality, by Survey region, 1946-48

| Species group | All grades | Grade 1 | Grade 2 | Grade 3 |  |
|---|---|---|---|---|---|
|  |  |  |  | In fair and better stands | In poor stands |
|  | - - - - - - - - -Million board feet - - - - - - - - - |  |  |  |  |
|  |  |  | STATE |  |  |
| Softwood | 12,379.1 | 1,553.8 | 3,205.9 | 2,196.4 | 5,423.0 |
| Hardwood | 16,948.9 | 1,811.8 | 3,888.8 | 7,110.2 | 4,138.1 |
| Total | 29,328.0 | 3,365.6 | 7,094.7 | 9,306.6 | 9,561.1 |
|  |  |  | NORTH |  |  |
| Softwood | 1,108.0 | 147.4 | 281.4 | 57.1 | 622.1 |
| Hardwood | 2,823.4 | 248.5 | 649.4 | 1,022.4 | 903.1 |
| Total | 3,931.4 | 395.9 | 930.8 | 1,079.5 | 1,525.2 |
|  |  |  | CENTRAL |  |  |
| Softwood | 6,323.4 | 992.8 | 1,770.6 | 1,174.8 | 2,385.2 |
| Hardwood | 7,690.4 | 907.5 | 1,615.0 | 3,550.3 | 1,617.6 |
| Total | 14,013.8 | 1,900.3 | 3,385.6 | 4,725.1 | 4,002.8 |
|  |  |  | SOUTH |  |  |
| Softwood | 4,338.5 | 321.0 | 1,002.2 | 802.1 | 2,213.2 |
| Hardwood | 2,131.5 | 268.5 | 483.9 | 816.5 | 562.6 |
| Total | 6,470.0 | 589.5 | 1,486.1 | 1,618.6 | 2,775.8 |
|  |  |  | DELTA |  |  |
| Softwood | 609.2 | 92.6 | 151.7 | 162.4 | 202.5 |
| Hardwood | 4,303.6 | 387.3 | 1,140.5 | 1,721.0 | 1,054.8 |
| Total | 4,912.8 | 479.9 | 1,292.2 | 1,883.4 | 1,257.3 |

Table 41.--Current annual drain of sawlog and total growing stock in species groups, by commodity and Survey region, 1946

| Commodity | Total growing stock | | | Sawlog growing stock | | |
|---|---|---|---|---|---|---|
| | All species | Soft-wood | Hard-wood | All species | Soft-wood | Hard-wood |
| | Million cubic feet | | | Million board feet | | |
| | | | STATE | | | |
| Sawlogs | 283.4 | 163.0 | 120.4 | 1,574.9 | 851.2 | 723.7 |
| Fuel wood | 81.4 | 11.4 | 70.0 | 250.9 | 44.2 | 206.7 |
| Pulpwood | 79.4 | 64.2 | 15.2 | 126.9 | 102.8 | 24.1 |
| Hewn ties | 26.2 | 11.4 | 14.8 | 150.5 | 57.4 | 93.1 |
| Cooperage bolts | 19.2 | .5 | 18.7 | 124.6 | 2.8 | 121.8 |
| Veneer logs | 19.1 | 2.3 | 16.8 | 128.0 | 13.1 | 114.9 |
| Poles | 13.1 | 13.1 | .. | 61.6 | 61.6 | .. |
| Fence posts | 5.5 | .2 | 5.3 | 17.0 | .1 | 16.9 |
| Piling | .6 | .6 | .. | 2.7 | 2.7 | .. |
| Misc. products | 7.7 | .2 | 7.5 | 40.8 | .8 | 40.0 |
| Misc. domestic use | 18.0 | 2.7 | 15.3 | 58.6 | 5.8 | 52.8 |
| Total | 553.6 | 269.6 | 284.0 | 2.536.5 | 1,142.5 | 1,394.0 |
| | | | NORTH | | | |
| Sawlogs | 56.2 | 26.2 | 30.0 | 316.8 | 136.8 | 180.0 |
| Fuel wood | 28.0 | 1.2 | 26.8 | 83.8 | 4.8 | 79.0 |
| Pulpwood | 3.6 | 2.4 | 1.2 | 5.8 | 3.9 | 1.9 |
| Hewn ties | 3.0 | .8 | 2.2 | 17.6 | 4.0 | 13.6 |
| Cooperage bolts | 4.8 | (1/) | 4.8 | 31.3 | .. | 31.3 |
| Veneer logs | .1 | (1/) | .1 | .8 | (1/) | .8 |
| Poles | .1 | .1 | .. | .6 | .6 | .. |
| Fence posts | 2.0 | .. | 2.0 | 6.5 | .. | 6.5 |
| Misc. products | 3.2 | (1/) | 3.2 | 17.1 | (1/) | 17.1 |
| Misc. domestic use | 4.6 | 1.1 | 3.5 | 10.8 | 1.7 | 9.1 |
| Total | 105.6 | 31.8 | 73.8 | 491.1 | 151.8 | 339.3 |
| | | | CENTRAL | | | |
| Sawlogs | 161.3 | 101.3 | 60.0 | 890.0 | 528.9 | 361.1 |
| Fuel wood | 29.6 | 7.7 | 21.9 | 94.4 | 29.4 | 65.0 |
| Pulpwood | 42.6 | 35.0 | 7.6 | 68.1 | 56.1 | 12.0 |
| Hewn ties | 14.5 | 6.4 | 8.1 | 83.1 | 32.0 | 51.1 |
| Cooperage bolts | 7.4 | (1/) | 7.4 | 48.1 | (1/) | 48.1 |
| Veneer logs | 9.4 | 1.0 | 8.4 | 63.4 | 5.8 | 57.6 |
| Poles | 6.4 | 6.4 | .. | 30.2 | 30.2 | .. |
| Fence posts | 2.1 | .1 | 2.0 | 6.4 | (1/) | 6.4 |
| Piling | .5 | .5 | .. | 2.3 | 2.3 | .. |
| Misc. products | 2.5 | .1 | 2.4 | 13.3 | .4 | 12.9 |
| Misc. domestic use | 4.4 | .8 | 3.6 | 12.8 | 1.9 | 10.9 |
| Total | 280.7 | 159.3 | 121.4 | 1.312.1 | 687.0 | 625.1 |

Table 41.--Current annual drain of sawlog and total growing stock in species groups, by commodity and Survey region, 1946 (Cont'd.)

| Commodity | Total growing stock | | | Sawlog growing stock | | |
|---|---|---|---|---|---|---|
| | All species | Soft-wood | Hard-wood | All species | Soft-wood | Hard-wood |
| | Million cubic feet | | | Million board feet | | |
| | | | SOUTH | | | |
| Sawlogs | 44.7 | 32.5 | 12.2 | 243.2 | 169.9 | 73.3 |
| Fuel wood | 5.6 | 1.4 | 4.2 | 18.0 | 5.6 | 12.4 |
| Pulpwood | 30.6 | 25.9 | 4.7 | 48.9 | 41.4 | 7.5 |
| Hewn ties | 8.6 | 4.2 | 4.4 | 49.0 | 21.1 | 27.9 |
| Cooperage bolts | .5 | .4 | .1 | 2.8 | 2.2 | .6 |
| Veneer logs | 6.4 | 1.2 | 5.2 | 42.2 | 6.7 | 35.5 |
| Poles | 6.6 | 6.6 | .. | 30.8 | 30.8 | .. |
| Fence posts | .7 | .1 | .6 | 2.0 | .1 | 1.9 |
| Piling | .1 | .1 | .. | .4 | .4 | .. |
| Misc. products | .7 | .1 | .6 | 3.8 | .4 | 3.4 |
| Misc. domestic use | 2.1 | .8 | 1.3 | 5.7 | 2.2 | 3.5 |
| Total | 106.6 | 73.3 | 33.3 | 446.8 | 280.8 | 166.0 |
| | | | DELTA | | | |
| Sawlogs | 21.2 | 3.0 | 18.2 | 124.9 | 15.6 | 109.3 |
| Fuel wood | 18.2 | 1.1 | 17.1 | 54.7 | 4.4 | 50.3 |
| Pulpwood | 2.6 | .9 | 1.7 | 4.1 | 1.4 | 2.7 |
| Hewn ties | .1 | (1/) | .1 | .8 | .3 | .5 |
| Cooperage bolts | 6.5 | .1 | 6.4 | 42.4 | .6 | 41.8 |
| Veneer logs | 3.2 | .1 | 3.1 | 21.6 | .6 | 21.0 |
| Fence posts | .7 | (1/) | .7 | 2.1 | (1/) | 2.1 |
| Misc. products | 1.3 | (1/) | 1.3 | 6.6 | (1/) | 6.6 |
| Misc. domestic use | 6.9 | (1/) | 6.9 | 29.3 | (1/) | 29.3 |
| Total | 60.7 | 5.2 | 55.5 | 286.5 | 22.9 | 263.6 |

1/ Negligible

Table 42.--Current annual drain of sawlog and total growing stock by species, 1946

| Species | Total growing stock | Sawlog growing stock |
|---|---|---|
| | Million cubic feet | Million board feet |
| Softwood: | | |
| Pines | 267.5 | 1,132.0 |
| Other | 2.1 | 10.5 |
| Total | 269.6 | 1,142.5 |
| Hardwood: | | |
| Oaks | 113.2 | 520.2 |
| Sweetgum | 61.0 | 309.5 |
| Black and tupelo gums | 38.3 | 215.8 |
| Other | 71.5 | 348.5 |
| Total | 284.0 | 1,394.0 |
| All species | 553.6 | 2,536.5 |

Table 43.--Current annual drain of sawlog and total growing stock, by species group and class of timber, by Survey region, 1946

| Class of timber | Total growing stock | | | Sawlog growing stock | | |
|---|---|---|---|---|---|---|
| | All species | Soft-wood | Hard-wood | All species | Soft-wood | Hard-wood |
| | Million cubic feet | | | Million board feet | | |
| | | | STATE | | | |
| Sawlog trees | 435.2 | 218.6 | 216.6 | 2,536.5 | 1,142.5 | 1,394.0 |
| Cordwood trees | 118.4 | 51.0 | 67.4 | .. | .. | .. |
| Total | 553.6 | 269.6 | 284.0 | 2,536.5 | 1,142.5 | 1,394.0 |
| | | | NORTH | | | |
| Sawlog trees | 81.4 | 28.3 | 53.1 | 491.1 | 151.8 | 339.3 |
| Cordwood trees | 24.2 | 3.5 | 20.7 | .. | .. | .. |
| Total | 105.6 | 31.8 | 73.8 | 491.1 | 151.8 | 339.3 |
| | | | CENTRAL | | | |
| Sawlog trees | 227.9 | 130.9 | 97.0 | 1,312.1 | 687.0 | 625.1 |
| Cordwood trees | 52.8 | 28.4 | 24.4 | .. | .. | .. |
| Total | 280.7 | 159.3 | 121.4 | 1,312.1 | 687.0 | 625.1 |
| | | | SOUTH | | | |
| Sawlog trees | 80.7 | 55.3 | 25.4 | 446.8 | 280.8 | 166.0 |
| Cordwood trees | 25.9 | 18.0 | 7.9 | .. | .. | .. |
| Total | 106.6 | 73.3 | 33.3 | 446.8 | 280.8 | 166.0 |
| | | | DELTA | | | |
| Sawlog trees | 45.2 | 4.1 | 41.1 | 286.5 | 22.9 | 263.6 |
| Cordwood trees | 15.5 | 1.1 | 14.4 | .. | .. | .. |
| Total | 60.7 | 5.2 | 55.5 | 286.5 | 22.9 | 263.6 |

Table 44.--Current annual drain of sawlog and total growing stock in species groups, by county, 1946

| County | Total growing stock |  |  | Sawlog growing stock |  |  |
|---|---|---|---|---|---|---|
|  | All species | Soft-wood | Hard-wood | All species | Soft-wood | Hard-wood |
|  | Million cubic feet |  |  | Million board feet |  |  |
| Adams | 11.3 | 2.4 | 8.9 | 63.4 | 11.2 | 52.2 |
| Alcorn | 3.6 | 1.0 | 2.6 | 16.6 | 4.9 | 11.7 |
| Amite | 13.4 | 10.8 | 2.6 | 65.9 | 53.3 | 12.6 |
| Attala | 9.0 | 4.9 | 4.1 | 40.2 | 19.9 | 20.3 |
| Benton | 2.0 | .5 | 1.5 | 9.6 | 2.5 | 7.1 |
| Bolivar | 8.9 | (1/) | 8.9 | 43.7 | .2 | 43.5 |
| Calhoun | 5.0 | 1.6 | 3.4 | 24.4 | 8.6 | 15.8 |
| Carroll | 4.2 | 1.8 | 2.4 | 19.5 | 9.0 | 10.5 |
| Chickasaw | 4.0 | 1.1 | 2.9 | 18.4 | 5.1 | 13.3 |
| Choctaw | 5.6 | 2.6 | 3.0 | 22.9 | 10.4 | 12.5 |
| Claiborne | 7.5 | 2.3 | 5.2 | 40.8 | 10.2 | 30.6 |
| Clarke | 15.6 | 9.5 | 6.1 | 78.8 | 44.9 | 33.9 |
| Clay | 2.3 | .5 | 1.8 | 10.7 | 2.2 | 8.5 |
| Coahoma | 3.4 | (1/) | 3.4 | 15.1 | .1 | 15.0 |
| Copiah | 14.3 | 8.1 | 6.2 | 65.7 | 34.8 | 30.9 |
| Covington | 6.9 | 4.4 | 2.5 | 31.3 | 18.8 | 12.5 |
| DeSoto | 2.7 | .2 | 2.5 | 10.4 | .3 | 10.1 |
| Forrest | 4.7 | 3.5 | 1.2 | 16.7 | 12.0 | 4.7 |
| Franklin | 12.0 | 9.0 | 3.0 | 54.5 | 39.7 | 14.8 |
| George | 4.2 | 3.3 | .9 | 17.7 | 13.3 | 4.4 |
| Greene | 6.7 | 5.1 | 1.6 | 30.0 | 21.3 | 8.7 |
| Grenada | 4.1 | 1.1 | 3.0 | 21.3 | 5.8 | 15.5 |
| Hancock | 4.4 | 3.5 | .9 | 15.6 | 10.8 | 4.8 |
| Harrison | 3.7 | 3.2 | .5 | 14.7 | 13.3 | 1.4 |
| Hinds | 9.4 | 3.7 | 5.7 | 42.2 | 14.6 | 27.6 |
| Holmes | 7.3 | 1.7 | 5.6 | 33.9 | 5.0 | 28.9 |
| Humphreys | 2.4 | (1/) | 2.4 | 9.6 | .1 | 9.5 |
| Issaquena | 2.1 | (1/) | 2.1 | 10.6 | (1/) | 10.6 |
| Itawamba | 7.0 | 2.9 | 4.1 | 35.8 | 15.3 | 20.5 |
| Jackson | 6.5 | 5.2 | 1.3 | 23.9 | 16.0 | 7.9 |
| Jasper | 13.5 | 7.9 | 5.6 | 62.0 | 32.2 | 29.8 |
| Jefferson | 7.8 | 3.4 | 4.4 | 38.5 | 14.6 | 23.9 |
| Jeff Davis | 5.8 | 3.5 | 2.3 | 27.4 | 14.6 | 12.8 |
| Jones | 9.6 | 5.6 | 4.0 | 42.0 | 22.8 | 19.2 |
| Kemper | 11.2 | 6.3 | 4.9 | 56.0 | 29.7 | 26.3 |
| Lafayette | 3.5 | 0.8 | 2.7 | 16.5 | 3.8 | 12.7 |
| Lamar | 7.1 | 5.0 | 2.1 | 30.6 | 19.9 | 10.7 |
| Lauderdale | 14.0 | 8.1 | 5.9 | 68.5 | 36.7 | 31.8 |
| Lawrence | 9.0 | 6.1 | 2.9 | 40.0 | 24.6 | 15.4 |
| Leake | 11.6 | 7.5 | 4.1 | 49.6 | 30.4 | 19.2 |
| Lee | 2.8 | .4 | 2.4 | 11.1 | 1.8 | 9.3 |
| LeFlore | 2.6 | .1 | 2.5 | 10.4 | .3 | 10.1 |

Table 44.--Current annual drain of sawlog and total growing stock in species groups, by county, 1946 (Cont'd.)

| County | Total growing stock |  |  | Sawlog growing stock |  |  |
|---|---|---|---|---|---|---|
|  | All species | Soft-wood | Hard-wood | All species | Soft-wood | Hard-wood |
|  | Million cubic feet |  |  | Million board feet |  |  |
| Lincoln | 13.0 | 8.8 | 4.2 | 56.3 | 36.8 | 19.5 |
| Lowndes | 4.8 | 1.6 | 3.2 | 23.2 | 7.6 | 15.6 |
| Madison | 7.8 | 3.1 | 4.7 | 37.3 | 14.4 | 22.9 |
| Marion | 8.2 | 5.0 | 3.2 | 31.6 | 15.9 | 15.7 |
| Marshall | 3.5 | .7 | 2.8 | 15.4 | 3.0 | 12.4 |
| Monroe | 8.2 | 3.3 | 4.9 | 41.2 | 16.7 | 24.5 |
| Montgomery | 3.5 | 1.6 | 1.9 | 15.7 | 7.0 | 8.7 |
| Neshoba | 8.4 | 4.1 | 4.3 | 41.3 | 18.5 | 22.8 |
| Newton | 12.7 | 7.6 | 5.1 | 55.4 | 30.1 | 25.3 |
| Noxubee | 3.9 | 1.3 | 2.6 | 17.6 | 5.9 | 11.7 |
| Oktibbeha | 4.2 | 1.6 | 2.6 | 19.0 | 7.5 | 11.5 |
| Panola | 4.2 | .3 | 3.9 | 17.7 | 1.2 | 16.5 |
| Pearl River | 6.0 | 3.8 | 2.2 | 23.6 | 13.6 | 10.0 |
| Perry | 5.6 | 3.4 | 2.2 | 18.4 | 9.3 | 9.1 |
| Pike | 9.4 | 6.1 | 3.3 | 39.2 | 24.3 | 14.9 |
| Pontotoc | 3.4 | .9 | 2.5 | 15.2 | 4.6 | 10.6 |
| Prentiss | 4.9 | 1.3 | 3.6 | 24.4 | 6.5 | 17.9 |
| Quitman | 1.7 | .1 | 1.6 | 6.7 | .4 | 6.3 |
| Rankin | 16.9 | 10.0 | 6.9 | 71.9 | 38.0 | 33.9 |
| Scott | 13.1 | 8.4 | 4.7 | 55.8 | 33.1 | 22.7 |
| Sharkey | 2.6 | .1 | 2.5 | 13.6 | .8 | 12.8 |
| Simpson | 12.5 | 7.5 | 5.0 | 52.6 | 28.2 | 24.4 |
| Smith | 10.5 | 5.5 | 5.0 | 49.1 | 24.7 | 24.4 |
| Stone | 3.6 | 3.1 | .5 | 15.9 | 13.2 | 2.7 |
| Sunflower | 2.8 | (1/) | 2.8 | 9.2 | .1 | 9.1 |
| Tallahatchie | 2.9 | .5 | 2.4 | 12.2 | 2.5 | 9.7 |
| Tate | 1.7 | .1 | 1.6 | 6.2 | .3 | 5.9 |
| Tippah | 3.7 | .9 | 2.8 | 17.0 | 4.4 | 12.6 |
| Tishomingo | 5.9 | 2.1 | 3.8 | 27.2 | 10.1 | 17.1 |
| Tunica | 3.0 | .1 | 2.9 | 12.9 | .7 | 12.2 |
| Union | 3.1 | .5 | 2.6 | 15.1 | 2.6 | 12.5 |
| Walthall | 3.8 | 2.3 | 1.5 | 15.5 | 8.0 | 7.5 |
| Warren | 7.3 | 1.7 | 5.6 | 41.3 | 8.4 | 32.9 |
| Washington | 4.3 | (1/) | 4.3 | 16.6 | .2 | 16.4 |
| Wayne | 10.8 | 7.3 | 3.5 | 51.9 | 33.4 | 18.5 |
| Webster | 3.3 | 1.5 | 1.8 | 14.2 | 6.6 | 7.6 |
| Wilkinson | 14.8 | 9.4 | 5.4 | 74.2 | 43.9 | 30.3 |
| Winston | 7.1 | 3.6 | 3.5 | 35.3 | 16.9 | 18.4 |
| Yalobusha | 4.4 | .9 | 3.5 | 22.4 | 4.0 | 18.4 |
| Yazoo | 9.4 | .9 | 8.5 | 50.7 | 4.1 | 46.6 |
| Total | 553.6 | 269.6 | 284.0 | 2,536.5 | 1,142.5 | 1,394.0 |

Table 45.--Current annual net growth of sawlog and total growing stock by species group and class of timber, by Survey region, 1946-48

| Class of timber | Total growing stock |  |  | Sawlog growing stock |  |  |
|---|---|---|---|---|---|---|
|  | All species | Soft-wood | Hard-wood | All species | Soft-wood | Hard-wood |
|  | Million cubic feet |  |  | Million board feet |  |  |
| **STATE** |  |  |  |  |  |  |
| Sawlog trees | 256.0 | 151.5 | 104.5 | 1,816.5 | 901.1 | 915.4 |
| Cordwood trees | 272.7 | 41.3 | 231.4 | .. | .. | .. |
| Total | 528.7 | 192.8 | 335.9 | 1,816.5 | 901.1 | 915.4 |
| **NORTH** |  |  |  |  |  |  |
| Sawlog trees | 32.0 | 14.5 | 17.5 | 231.2 | 86.7 | 144.5 |
| Cordwood trees | 73.9 | 8.4 | 65.5 | .. | .. | .. |
| Total | 105.9 | 22.9 | 83.0 | 231.2 | 86.7 | 144.5 |
| **CENTRAL** |  |  |  |  |  |  |
| Sawlog trees | 130.7 | 84.8 | 45.9 | 933.7 | 504.5 | 429.2 |
| Cordwood trees | 134.9 | 24.2 | 110.7 | .. | .. | .. |
| Total | 265.6 | 109.0 | 156.6 | 933.7 | 504.5 | 429.2 |
| **SOUTH** |  |  |  |  |  |  |
| Sawlog trees | 60.6 | 49.1 | 11.5 | 401.5 | 292.9 | 108.6 |
| Cordwood trees | 28.6 | 8.3 | 20.3 | .. | .. | .. |
| Total | 89.2 | 57.4 | 31.8 | 401.5 | 292.9 | 108.6 |
| **DELTA** |  |  |  |  |  |  |
| Sawlog trees | 32.7 | 3.1 | 29.6 | 250.1 | 17.0 | 233.1 |
| Cordwood trees | 35.3 | 0.4 | 34.9 | .. | .. | .. |
| Total | 68.0 | 3.5 | 64.5 | 250.1 | 17.0 | 233.1 |

Table 46.--Current annual net growth per acre of sawlog and total growing stock, by forest-type and stand-size group, by Survey region, 1946-48

| Stand-size group | Total growing stock |  |  | Sawlog growing stock |  |  |
|---|---|---|---|---|---|---|
|  | All types | Softwood types | Hardwood types | All types | Softwood types | Hardwood types |
|  | Cubic feet |  |  | Board feet |  |  |
| STATE |  |  |  |  |  |  |
| Saw timber | 46 | 58 | 37 | 201 | 251 | 164 |
| Cordwood | 29 | 32 | 27 | 82 | 104 | 65 |
| Other stand sizes | 17 | 14 | 19 | 22 | 25 | 20 |
| Total | 32 | 36 | 29 | 110 | 132 | 92 |
| NORTH |  |  |  |  |  |  |
| Saw timber | 37 | 40 | 36 | 132 | 169 | 120 |
| Cordwood | 28 | 28 | 28 | 52 | 73 | 44 |
| Other stand sizes | 22 | 18 | 24 | 13 | 16 | 12 |
| Total | 28 | 28 | 29 | 62 | 79 | 56 |
| CENTRAL |  |  |  |  |  |  |
| Saw timber | 54 | 66 | 40 | 226 | 270 | 179 |
| Cordwood | 39 | 43 | 33 | 113 | 130 | 92 |
| Other stand sizes | 26 | 23 | 34 | 28 | 31 | 19 |
| Total | 44 | 49 | 37 | 155 | 172 | 133 |
| SOUTH |  |  |  |  |  |  |
| Saw timber | 37 | 45 | 23 | 200 | 236 | 133 |
| Cordwood | 19 | 22 | 13 | 77 | 95 | 46 |
| Other stand sizes | 7 | 8 | 7 | 19 | 23 | 13 |
| Total | 19 | 23 | 13 | 85 | 105 | 52 |
| DELTA |  |  |  |  |  |  |
| Saw timber | 38 | 41 | 38 | 185 | 179 | 185 |
| Cordwood | 33 | 35 | 32 | 99 | 100 | 99 |
| Other stand sizes | 26 | 13 | 26 | 39 | 49 | 38 |
| Total | 33 | 33 | 33 | 123 | 110 | 123 |

## Definition of Terms

### Forest Land

*Forest land*. Land which bears forest growth, or land from which the forest has been removed and which has not been put to other use. Each tract classed as forest is at least one acre in size.

*Commercial forest land*. Forest land bearing, or capable of bearing, timber of commercial quantity and quality, and not withdrawn from commercial timber use.

*Reserved-commercial forest land*. Forest land in public parks or preserves which qualifies as commercial forest land except that it is withdrawn from commercial timber use.

### Tree Species

*Softwoods*. Pine, eastern redcedar, and cypress.

*Hardwoods*. Any broadleaved species.

### Forest Type

Forest type is determined only from dominant and codominant growing stock and dominant and codominant smaller sound trees of good form.

*Loblolly-shortleaf pine*. Stands in which pines comprise at least 25 percent of the trees, and at least half of the pines are loblolly and shortleaf pines.

*Longleaf-slash pine*. Stands in which pines comprise at least 25 percent of the trees, and at least half of the pines are longleaf and slash pines.

*Cedar*. Stands in which eastern redcedar comprises at least 25 percent of the trees.

*Bottomland hardwood*. Stands in which bottomland hardwoods and cypress comprise 76 percent or more of the trees.

*Upland hardwood*. Stands in which upland hardwoods comprise 76 percent or more of the trees, and no pine is present.

*Upland hardwood-pine*. Stands in which upland hardwoods comprise 76 percent or more of the trees, and some pine is present.

## Class of Timber

Growing stock. Sawlog growing stock is the sawlog portion of sawlog trees. Total growing stock includes sawlog growing stock, and upper stems of softwood sawlog trees and entire stems of cordwood trees to a minimum diameter of 4 inches inside bark.

Sawlog tree. A live, merchantable softwood 9.0 inches or larger in d.b.h., or a live, merchantable hardwood 11.0 inches or larger in d.b.h. To be merchantable, the tree must have at least a merchantable 12-foot butt log or 50 percent of its gross volume in merchantable logs.

Cordwood tree. A live tree 5.0 inches or larger in d.b.h., but smaller than sawlog size, which would become a sawlog tree if it should grow to sawlog size.

Cull tree. A live tree 5.0 inches or larger in d.b.h., which because of decay or sound defect fails to meet the specifications for a cordwood or sawlog tree.

Tops and limbs. Upper stems and limbs of hardwood sawlog trees between the top sawlog and a minimum diameter of 4 inches inside bark.

## Stand-size Class

Large saw timber. Stands having a net volume of at least 1,500 board feet per acre in sawlog trees and at least half of this volume in softwoods 15.0 inches d.b.h. and larger, and hardwoods 17.0 inches d.b.h. and larger.

Small saw timber. Stands which do not meet the specifications for large saw timber but which do contain a net volume of at least 1,500 board feet per acre in sawlog trees.

Cordwood. Stands below saw-timber specifications, with at least 10 percent of the growing space occupied by growing stock, and with at least 5 percent of the growing space occupied by cordwood trees.

Seedling and sapling. Stands that do not meet saw-timber and cordwood specifications in which at least 40 percent of the growing space is occupied by growing stock and smaller sound trees of commercial species, but with less than 10 percent of the space occupied by growing stock.

Restocking and denuded. Commercial forest land which does not qualify for any other stand-size class.

## Tree Stocking

Degree of stocking is determined by the ratio of the actual number of growing-stock and smaller sound trees of good form in the stand to the number of trees of the same size required to occupy the site fully (for best growth). Under this criterion, stands are well stocked when the percentage of full stocking is 70 or above, partially stocked when the percentage is 40 to 69, poorly stocked when the percentage is 10 to 39, and nonstocked when the percentage is under 10.

## Volume and Basal Area

Sawlog volume. Net volume in merchantable sawlogs in sawlog trees, measured by the International 1/4-inch log rule.

Total volume. Volume of sound, usable wood in stems of softwoods and stems and branches of hardwoods between stump and minimum top diameter of 4 inches inside bark, measured in cubic feet.

Basal area. Cross-sectional area of trees at breast height, measured in square feet.

## Diameter

D.b.h. (diameter breast high). Tree diameter in inches, outside bark, measured at 4½ feet above ground.

Diameter class. Each 2-inch diameter class includes diameters 1.0 inch below and 0.9 inch above the stated midpoint. E.g., the 12-inch class includes trees 11.0 up to and including 12.9 inches.

## Growth

Current annual net growth. A forecast of the annual increase in the reported growing stock if no cutting should take place, allowing for normal tree mortality due to suppression, fire, windthrow, and other causes.

## Drain

Net volume removed from the timber growing stock through cutting of timber commodities and attendant logging waste, and through land clearing.

## Log and Tree Grade

Tree grades for softwoods:

Grade 1 (smooth trees). Not less than 20 feet of clear bole and at least 40 percent of the merchantable length clear of limbs and knots in sections not less than 8 feet in length.

Grade 2 (limby trees). Not less than 12 feet of clear bole and 25 to 39 percent of the merchantable length clear of limbs and knots in sections not less than 8 feet in length.

Grade 3 (rough trees). Merchantable trees below grade-2 specifications.

Log grades for hardwoods:[1]

Grade 1. Smooth, generally clear logs which yield at least one-half of their volume in higher grades of lumber.

Grade 2. Logs of average clearness which yield from one-third to one-half of their volume in higher grades of lumber.

Grade 3. Small logs or logs of less than average clearness which yield less than one-third of their volume in higher grades of lumber, or sound, straight logs with many small defects which make them suitable only for ties and timbers.

## Stand Quality

Fair and better. A stand in which grade 2 or better hardwood logs or softwood trees are present.

Poor. A stand in which no grade 2 hardwood logs or softwood trees are present.

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[1] For detailed external specifications of log grades used, see "Interim Sawlog Grades for Southern Hardwoods," Southern Forest Experiment Station, 9 pp., January 1948. (Revised).

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# MISSISSIPPI TIMBER STANDS BEFORE AND AFTER CUTTING

Lee M. James and William P. Hoffman

A REPORT OF THE SOUTHERN FOREST SURVEY
William A. Duerr, In Charge

SOUTHERN FOREST EXPERIMENT STATION
Chas. A. Connaughton, Director
New Orleans, La.

# THE SOUTHERN FOREST SURVEY

The Southern Forest Survey, an activity of the Southern Forest Experiment Station, covers the seven States of the Station's territory--Alabama, Arkansas, Louisiana, Mississippi, Oklahoma, Tennessee, and Texas. This Survey is a part of the nation-wide Forest Survey authorized by the McSweeney-McNary Forest Research Act of 1928. Its five-fold purpose is (1) to take inventory of the supply of standing timber and other forest products; (2) to ascertain the rate at which this supply is being increased through growth; (3) to determine the rate at which this supply is being diminished through industrial and local use, and by fire, insects, disease, and other agencies; (4) to estimate the present requirements and the probable future trend in the requirements for timber and other forest products; and (5) to correlate these findings with existing and anticipated economic conditions, in order that policies may be formulated for the effective use of lands suitable for forest production.

# MISSISSIPPI TIMBER STANDS BEFORE AND AFTER CUTTING

Lee M. James and William P. Hoffman[1]
Southern Forest Experiment Station

A recent publication of the Southern Forest Survey shows that in the past 14 years Mississippi's forest resource has continued to decline.[2] Because of the general preference of wood users for pine and the aggressiveness of hardwood in many areas, some 2 million acres of pine stands have been converted into hardwood and hardwood-pine stands. Total softwood growing stock has dropped 20 percent in volume, with the heaviest losses occurring in the larger tree sizes. Hardwood growing stock has held its own in total; but the drain has been in the more valuable species and sizes of trees, while compensating growth has been in the less desirable species and sizes. Hardwood volume in sawlog trees has been cut back 20 percent in the 14 years.

Much of the explanation for these sharp changes in the forest resource can be found in prevailing logging practices--in the kind of stands selected for logging, the kind of trees cut, and the effect of cutting on the character of the timber. These aspects of logging practice in Mississippi were investigated in 1947 in a survey of cutting operations. Findings of the survey are summarized in this report.[3]

## How Stands Look Before Cutting

In stands selected for logging, well over half of all the pine timber and 40 percent of the hardwood is in trees smaller than 14 inches in diameter at breast height (d.b.h.).[4] More than one-third of the sawlog volume in these stands is in grade 3 material. Nevertheless, poor as these areas are in tree size and quality, they are better than the average of all forests in the State.[5]

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[1] Field data used in this report were collected by R. D. Carpenter, W. H. Crowell, Beryl Jones, and E. G. Sullivan, under the supervision of W. S. Stover.

[2] Southern Forest Experiment Station. Forest Statistics for Mississippi. South. Forest Expt. Sta. Forest Survey Release 59. (Processed.) 1949.

[3] A description of the field survey, an estimage of sampling errors, and definitions of terms are given beginning on page 17.

[4] Only growing stock is considered in this report. Except where sawlog growing stock is specified, the reference is to total cubic-foot growing stock.

Stands selected for logging vary widely with the type of product. Pine sawlogs are taken from stands having, on the average, some 60 percent of their total pine volume in trees above 12 inches d.b.h. Pine pulpwood, in contrast, is taken from stands with only 13 percent of the pine growing stock in sizes above 12 inches. Hardwood products contrast with each other even more strongly than pine products both in size of trees and tree quality in stands selected for cutting.

## What Trees Make Up The Cut

Because of the limitations of the stands available for cutting, a very large proportion of the cut comes from small and low-grade trees. Of the volume logged, more than half of the pine and one-fourth of the hardwood comes from trees under 14 inches in diameter. Roughly one-fourth of the hardwood sawlog cut and one-half of the pine sawlog cut is grade 3 trees. (In this report, hardwood tree grade is based on the grade of the butt log alone. See the definitions on page 19.)

The sizes and grades of trees cut vary a great deal from product to product. In pines, nearly half the volume of sawlogs and half the volume of hewn ties is from 14- to 18-inch trees, but virtually all the pulpwood and 90 percent of the fuel wood is cut from trees 12 inches d.b.h. or smaller. In hardwoods, the contrasts in tree sizes logged for different products are even greater.

Hardwood trees logged are usually much larger than pine trees cut for corresponding products. However, in the case of hewn ties, the same tree sizes are cut in both pines and hardwoods; and at small sawmills, hardwood sawlogs are not much larger than pine sawlogs.

So far as quality is concerned, about two-thirds of the hardwood saw timber cut for veneer logs and one-half of that cut for sawlogs is in grade 1 trees, but only one-fourth of the saw timber cut for cooperage bolts is grade 1. In pine, quality independent of size seems to have little effect on the choice of trees for cutting.

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[5] As of 1946-48, the Southern Forest Survey found that some 60 percent of Mississippi's softwood growing stock (largely pine) and 50 percent of the hardwood was in trees under 14 inches d.b.h. Sixty-six percent of Mississippi's hardwood sawlog volume was in grade 3 logs, and 62 percent of the pine sawlog volume was in grade 3 trees.

## How Stands Look After Cutting

Stands are usually cut heavily, particularly for the larger and better-quality trees. On the average, cutting of sawlogs in pine stands takes nearly all trees over 12 inches in diameter and almost three-fourths of the volume in 10- and 12-inch trees. (Small sawmills cut more heavily in the latter sizes than large sawmills.)

Pulpwood cutting takes a heavier toll--three-fourths of the pine volume in 6- and 8-inch trees is removed in the average operation. Larger trees are cut less heavily for pulpwood because they are hard to handle and because owners want to save such trees for sawlog cuts. Cutting for hewn ties and fuel wood does not appear to be as heavy as cutting for sawlogs and pulpwood, but it is likely to be repeated more frequently. Moreover, the timber which survives these operations will probably be cut subsequently for sawlogs.

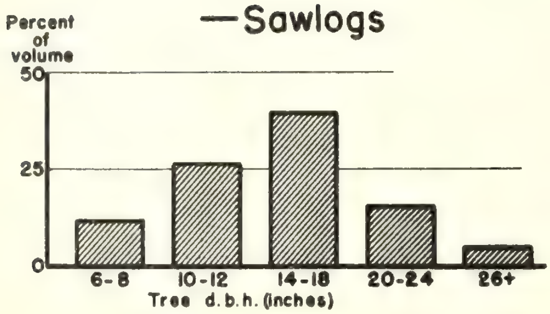
In regard to volume removed, hardwood cutting is not so severe as pine cutting. This holds for all products except fuel wood, which takes a much greater proportion of hardwood than of pine, and is true for cutting by small sawmills as well as cutting by large sawmills.

The superficially more favorable picture for hardwood logging is not so cheering when tree grade and species selection are considered. Regardless of the product they are interested in, most hardwood operators concentrate their cutting in the better tree grades. On the average, virtually all grade 1 trees are cut; 68 to 77 percent of the volume of grade 2 is cut; but only 41 to 46 percent of the volume of grade 3 is cut (except that in grades 2 and 3 small sawmills generally cut more heavily, and larger sawmills cut less heavily than these percentages indicate). This means that for each hardwood product cut, regardless of size, the saw-timber volume left standing is principally grade 3. Such cutting can only result in continuous downgrading of stands.

The process of hardwood downgrading is accentuated by species selection. Thus, although the average sawlog cutting removes only 50 percent of the hardwood growing stock, the cutting is concentrated among higher-value species. Species such as white oak, cherrybark oak, and yellow-poplar are cut twice as heavily as are lesser-value species like hickory and black gum.

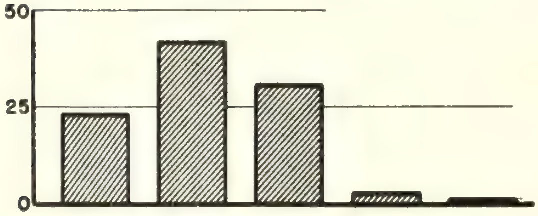
# How Pine Stands Look Before Cutting For—
## (Cubic-foot growing stock, by tree diameter)

—Sawlogs



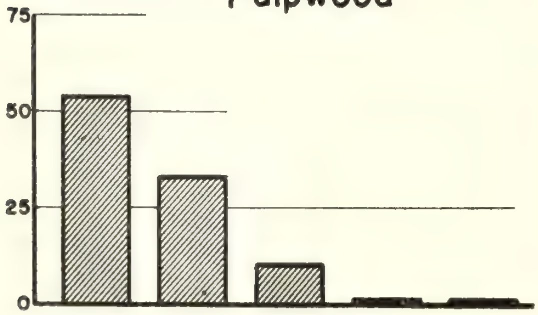
Pine stands with the largest trees are usually chosen for sawlog operations. However, even these stands have few big trees. Scarcely a fifth of the growing-stock volume is in trees 20 inches and larger.

—Hewn ties



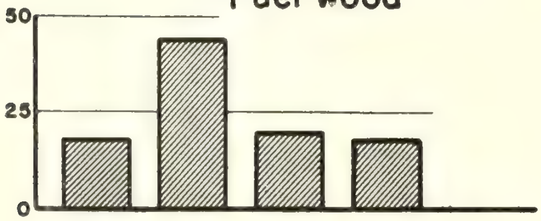
Stands with somewhat smaller trees are logged for hewn ties. Only four percent of the volume of pine growing stock is in trees 20 inches and larger.

—Pulpwood



Pulpwood cutting is done in the smallest stands, where, on the average, more than half of the volume is in 6- and 8- inch trees.

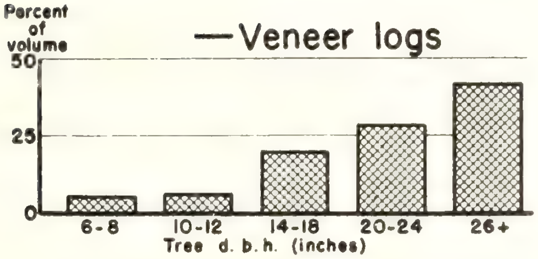
—Fuel wood



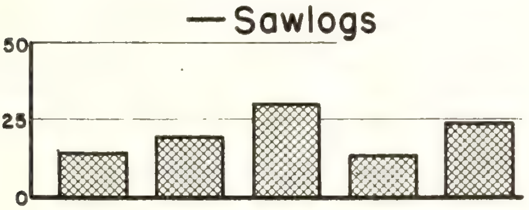
Fuel wood is cut from trees of any size—whatever is available locally.

## How Hardwood Stands Look Before Cutting For—

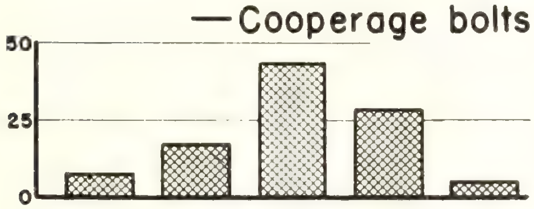
(Cubic-foot growing stock, by tree diameter)


—Veneer logs

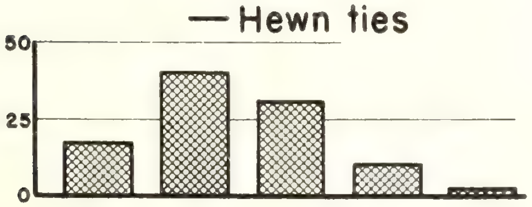
Veneer logs are usually taken from stands with the largest hardwood trees.


—Sawlogs

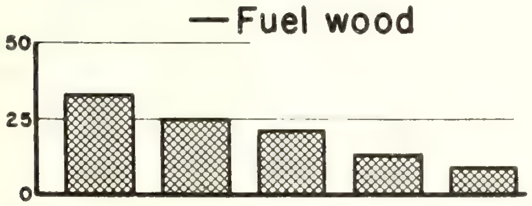
Sawlogs are cut in hardwood stands with more than one-third of the growing stock volume in trees 20 inches and larger.


—Cooperage bolts

Similar stands are logged for cooperage bolts, except that there are fewer of the very large trees.


—Hewn ties

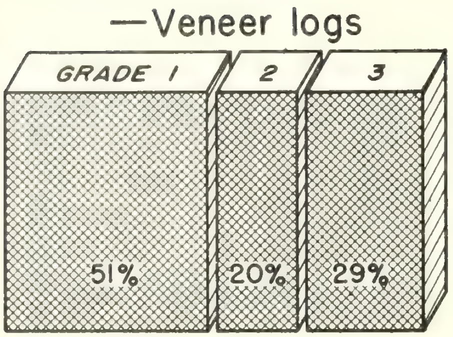
Hewn ties are removed from smaller hardwood stands, in which most of the growing stock volume is in trees less than 14 inches in diameter.


—Fuel wood

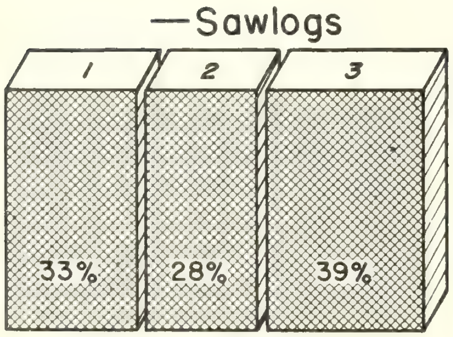
Fuel wood is cut from stands with trees of all sizes, but one-third of the volume of growing stock is in 6-and 8-inch trees alone.

# How Hardwood Stands Look Before Cutting For—

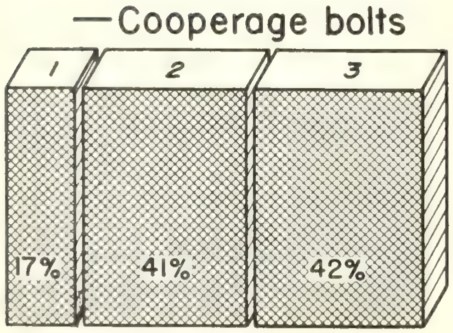
(Sawlog growing stock, by tree grade)



The highest-quality hardwood stands are usually selected for veneer-log operations.



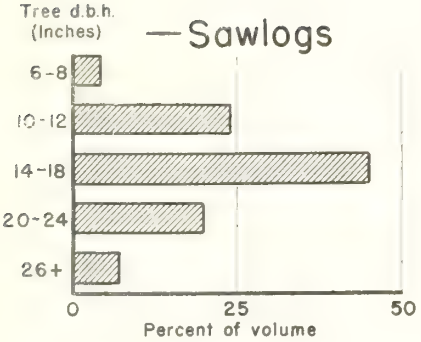
The typical sawlog operation occurs in stands with roughly equal volumes in tree grades 1, 2, and 3.



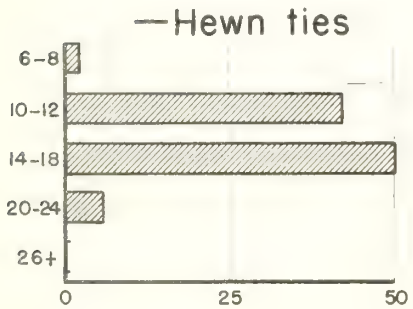
Cooperage bolts are taken from hardwood stands averaging only 17 percent of their sawlog volume in grade 1 trees.

# What Pine Trees Make Up The Cut For—

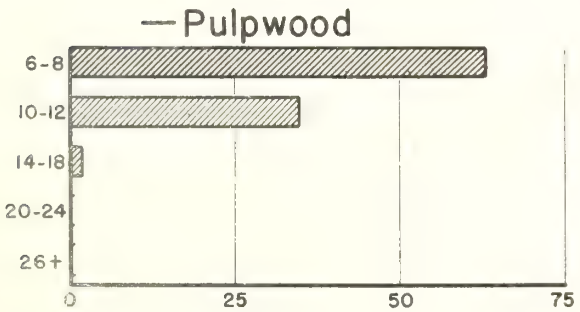
(Cubic-foot growing stock cut, by tree diameter)


—Sawlogs

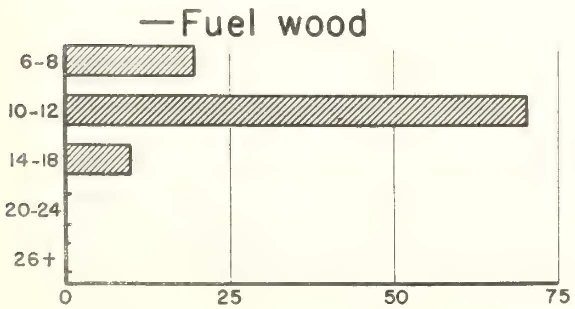
Nearly half of the pine growing-stock volume cut for sawlogs is in trees 14 to 18 inches d.b.h. Only a small portion is in sizes below 10 inches or above 24 inches.


—Hewn ties

Hewn ties are cut from pine trees similar to those felled for sawlogs, except that few trees above 18 inches are used.

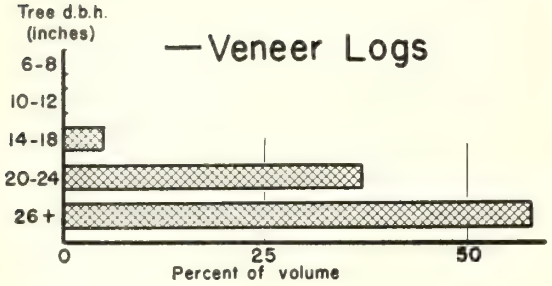

—Pulpwood

Pulpwood is usually taken from very small pine trees.

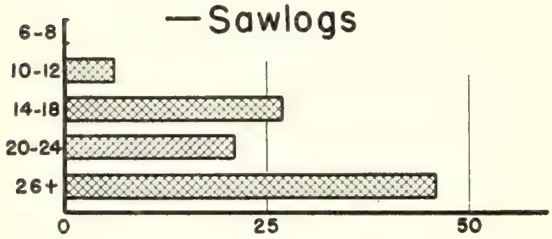

—Fuel wood

Fuel wood cutting is confined to small trees, but not as small as those cut for pulpwood.

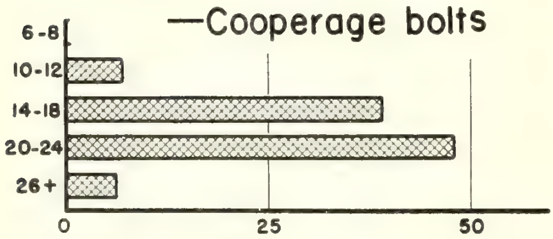
## What Hardwood Trees Make Up The Cut For—
(Cubic-foot growing stock cut, by tree diameter)



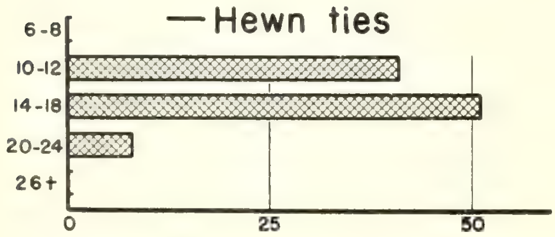
Veneer logs are usually cut from the biggest hardwood trees.



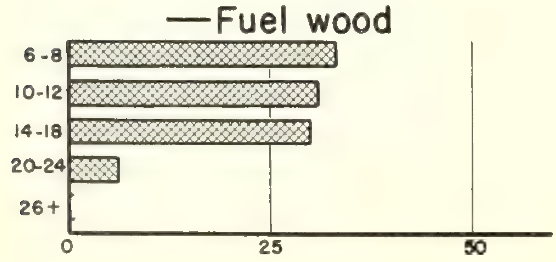
Most hardwood sawlogs are also taken from the larger trees. Some two-thirds of the sawlog harvest is in trees 20 inches d.b.h. and larger.



Nearly 90 percent of the hardwood growing-stock volume cut for cooperage bolts is in trees ranging from 14 to 24 inches in diameter.



Hewn ties are cut from the same size trees in hardwoods as in pine.

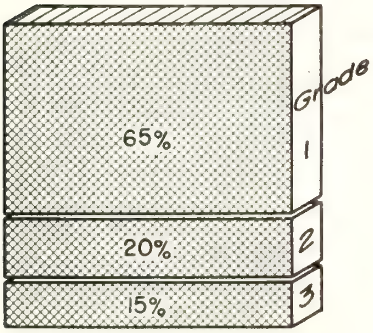


Hardwood fuel wood is cut chiefly from small trees.

# What Hardwood Trees Make Up The Cut For—

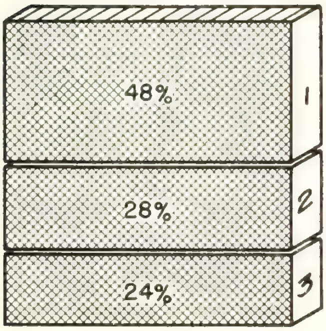
(Sawlog growing stock cut, by tree grade)

## —Veneer logs



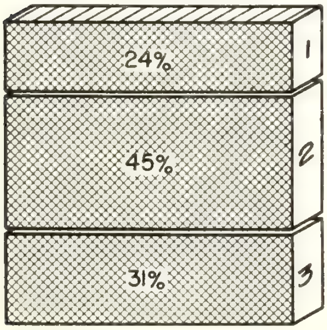
Virtually two-thirds of the volume cut for veneer logs is in grade 1 trees.

## —Sawlogs



Hardwood trees cut for sawlogs are not consistenty as good quality as those cut for veneer logs. Not all timber operators are in a competitive position to get the best quality trees.

## —Cooperage bolts

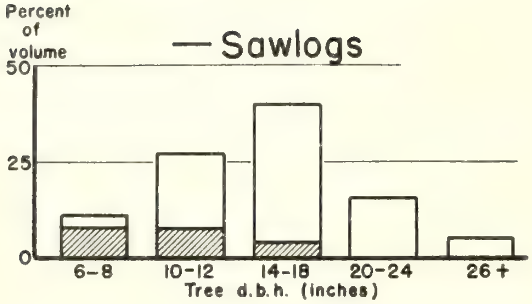


Only one-fourth of the sawlog volume cut for cooperage bolts is in grade I trees.

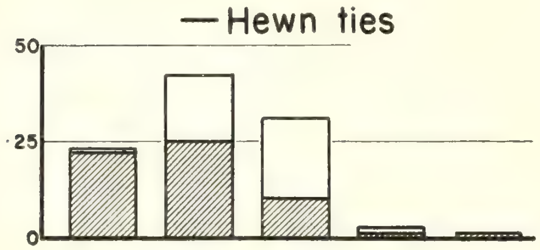
# How Pine Stands Look After Cutting For—

(Cubic-foot growing stock by tree diameter, and proportion cut and left)

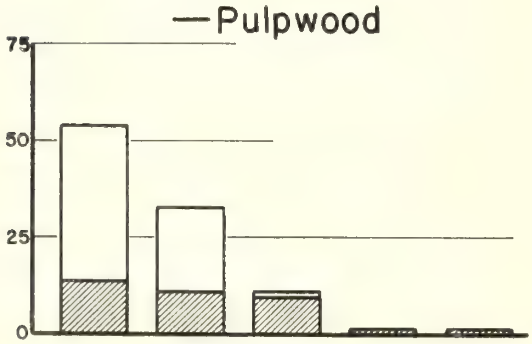
☐ Cut ▨ Left



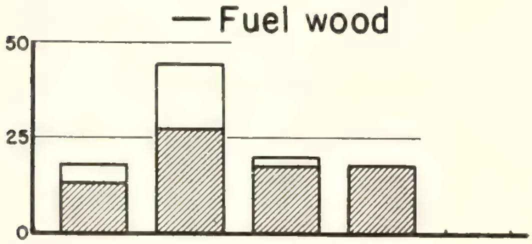
Sawlog cutting in pine stands takes almost all trees over 12 inches d.b.h. and nearly three-fourths of the volume in 10-and 12-inch trees. Even in 6- and 8-inch trees, one-fourth of the volume is cut. Of all the volume in growing-stock trees, only 22 percent is left standing after cutting.



Pine stands are cut more lightly for hewn ties, but the same stands are likely to be cut again soon for the same product or for sawlogs or pulpwood.



Pulpwood logging is most severe; it takes three-fourths of the volume of 6-and 8-inch trees. Cutting is apparently lighter in larger tree sizes because more trees are earmarked for sawlog cutting and because of pulpwood-logging limitations.



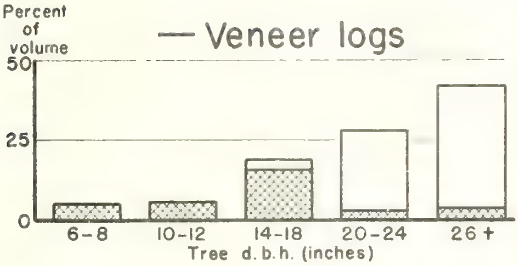
In volume, at least, fuel wood cutting in pine stands is lighter than logging for other products.

# How Hardwood Stands Look After Cutting For —

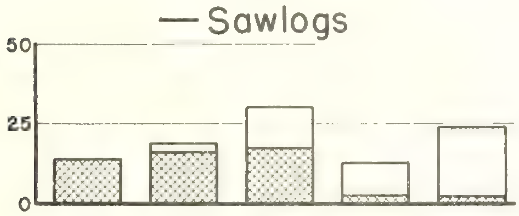
(Cubic-foot growing stock by tree diameter, and proportion cut and left)

☐ Cut

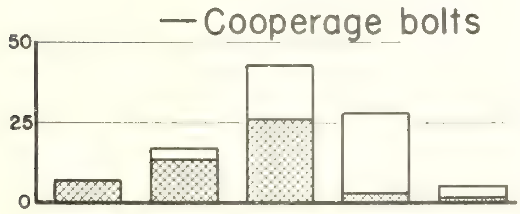
▨ Left


— Veneer logs

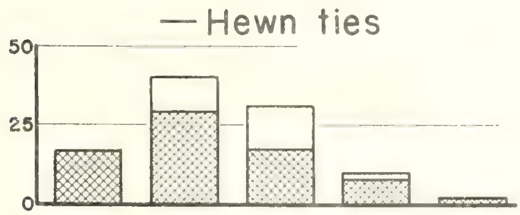
In hardwood stands cut for veneer logs, nearly all trees above 18 inches d.b.h., but few of the smaller trees, are taken. The residual trees contain only one-third as much volume as the growing stock before cutting.


— Sawlogs

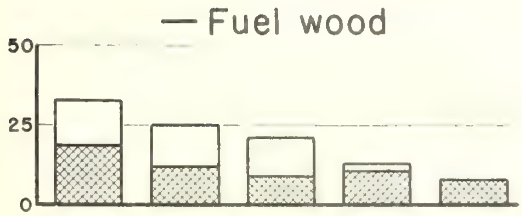
Logging for sawlogs is also heavy in trees above 18 inches and relatively light in smaller tree sizes.


— Cooperage bolts

The impact of logging for cooperage bolts is similar to that of sawlog cutting.


— Hewn ties

Logging for hewn ties is not heavy, but as in pine stands cut for the same product, the stands are likely to be cut again soon for hewn ties or for some other product.

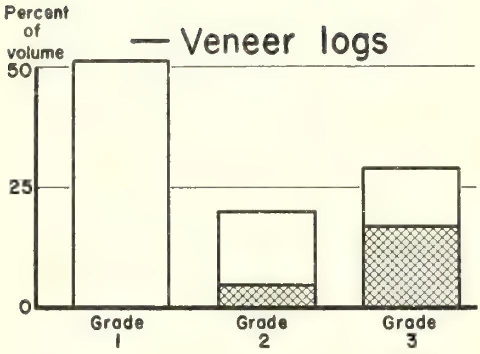

— Fuel wood

Fuel wood is one hardwood product cut heavily in small tree sizes. Fuel wood cutting takes more than 40 percent of the volume of 6- and 8-inch trees and 50 percent of the volume of 10- and 12-inch trees.

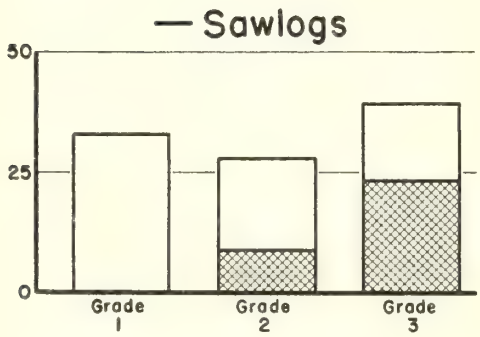
## How Hardwood Stands Look After Cutting For —

(Sawlog growing stock by tree grade, and proportion cut and left)

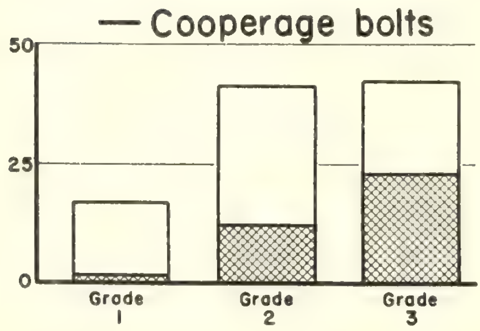
☐ Cut ▨ Left



In hardwood stands cut for veneer logs, all grade I trees are cut, but 23 percent of the sawlog volume in grade 2 trees and 59 percent of the sawlog volume in grade 3 trees is left standing. Only 21 percent of the sawlog growing stock is uncut, and most of this is grade 3.



Logging for sawlogs has a similar impact on hardwood tree grades. Some of the grade 3 trees left will grow into grade 2 trees, but many more will never improve in grade. Such logging can only lead to continuous down-grading of stands.

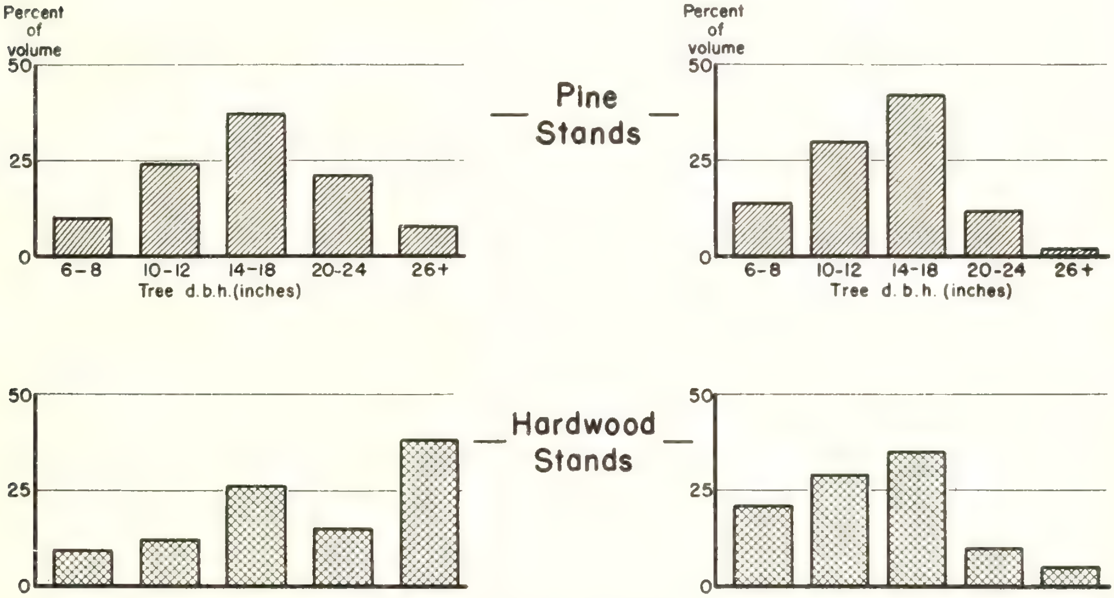


The same conclusions apply to logging for cooperage bolts.

# How Stands Look Before Cutting For —

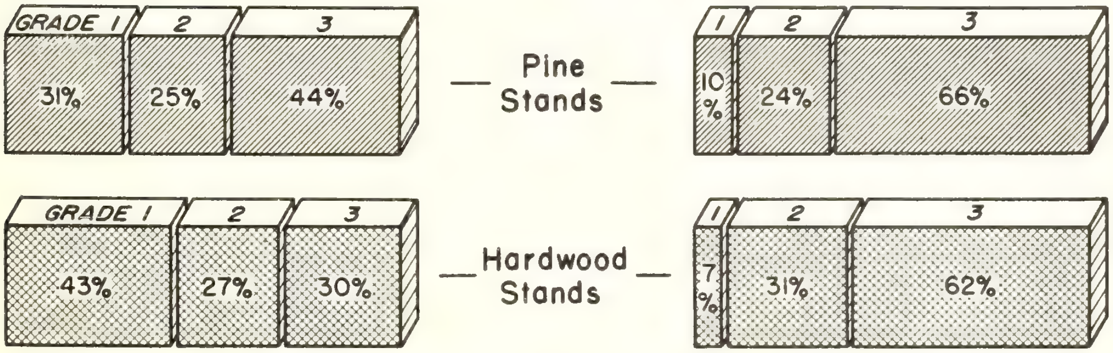
## Large Sawmills — versus Small Sawmills —

(Cubic-foot growing stock, by tree diameter)



Large mills have access to pine trees slightly larger on the average than those available to small mills; and in hardwood operations, the contrast between large and small sawmills is much sharper. Nearly 40 percent of the hardwood growing stock in stands selected for large mills is in tree sizes above 24 inches d. b. h.; only 5 percent of the hardwood volume in stands selected for small mills is in these same tree sizes.

(Sawlog growing stock, by tree grade)

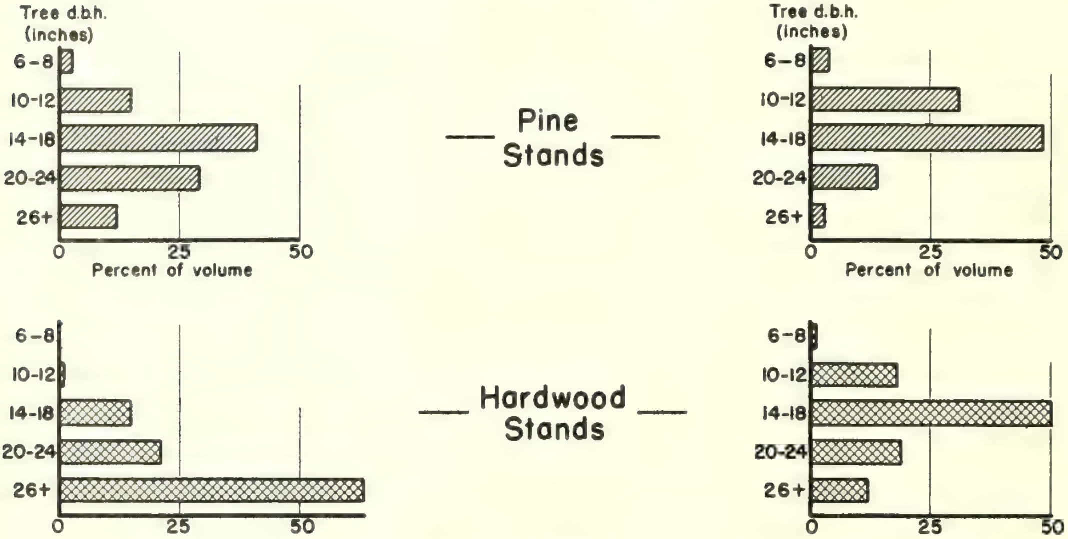


Before cutting, the quality of both pine and hardwood sawlog growing stock is much better in stands logged for large mills than for small mills.

# What Trees Make Up The Cut For—

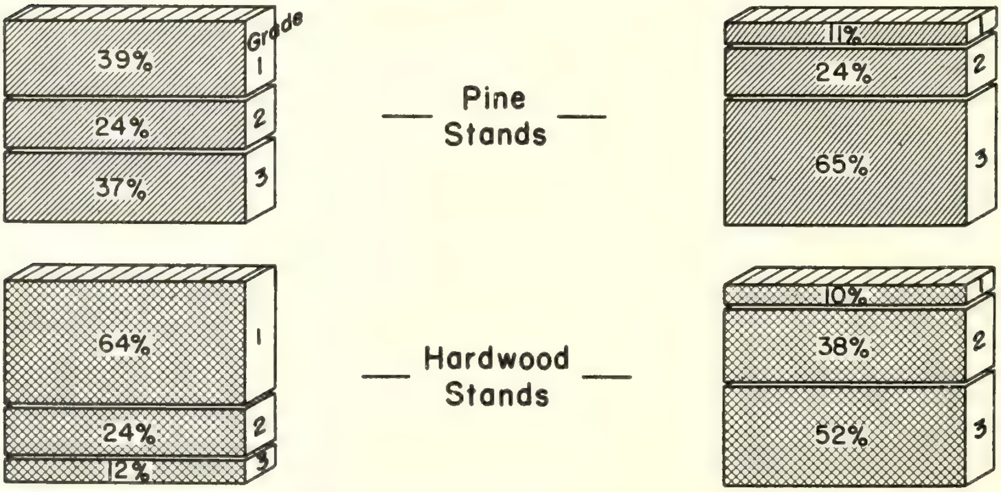
## Large Sawmills— versus Small Sawmills—

(Cubic-foot growing stock cut, by tree diameter)



Pine timber cut for large sawmills averages somewhat bigger than that cut for small sawmills. In hardwood cutting, however, differences are more pronounced. Large mills get the bulk of their hardwood volume in trees above 24 inches d.b.h. Small mills get half their volume in trees 14 to 18 inches d.b.h. and only 12 percent in trees larger than 24 inches.

(Sawlog growing stock cut, by tree grade)

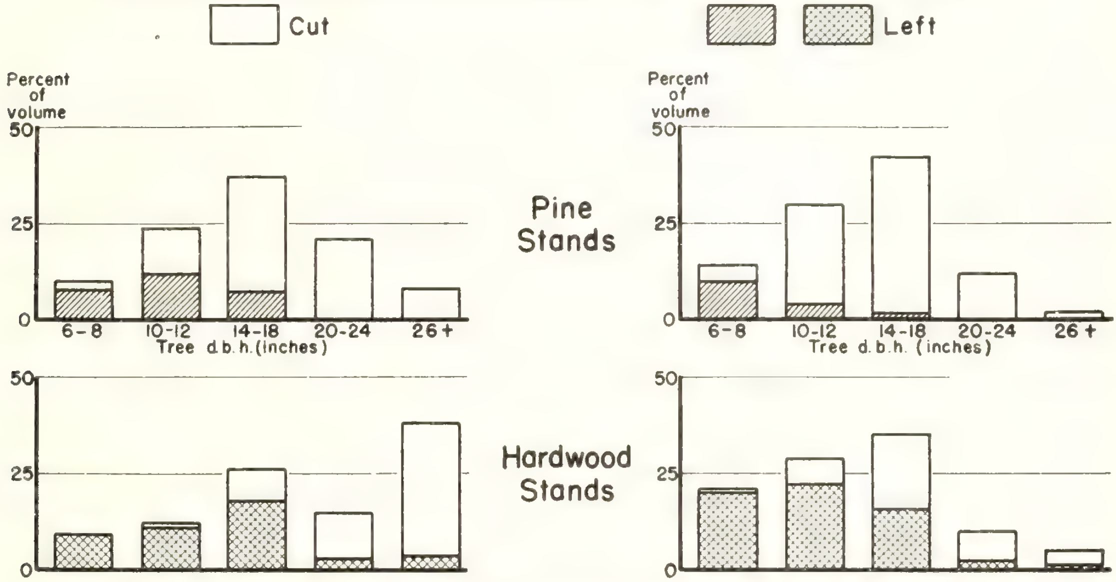


The quality of sawlog growing stock cut for large sawmills is much better than that cut for small sawmills, particularly in hardwood stands.

## How Stands Look After Cutting For —

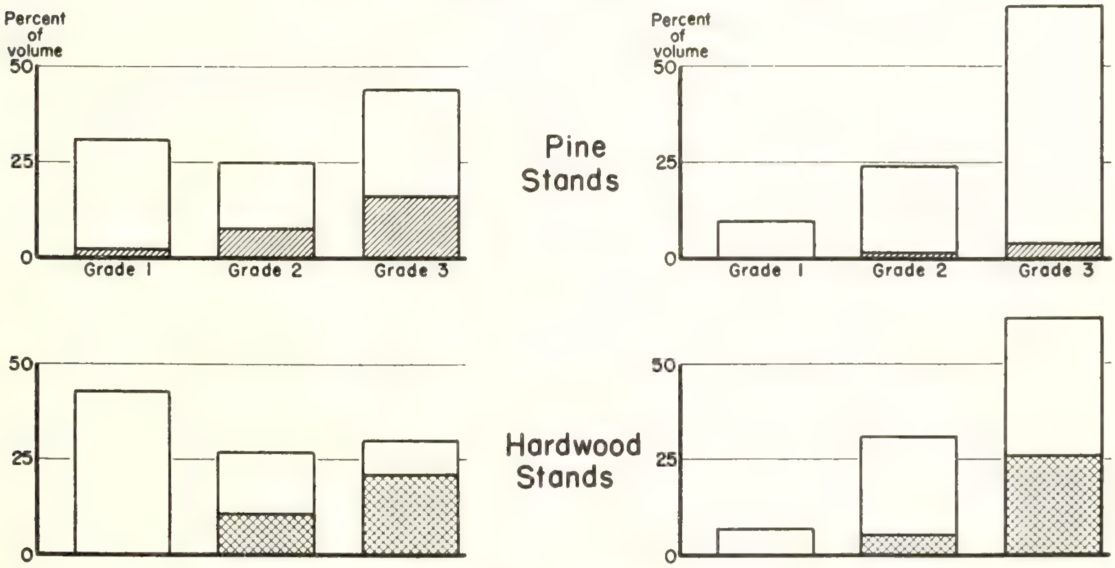
**Large Sawmills — versus Small Sawmills —**

(Cubic-foot growing stock by tree diameter, and proportion cut and left)



In tree sizes below 20 inches d.b.h., both pine and hardwood stands are cut much more heavily for small sawmills than for large sawmills. In bigger trees, the severity of cut is about the same.

(Sawlog growing stock by tree grade, and proportion cut and left)



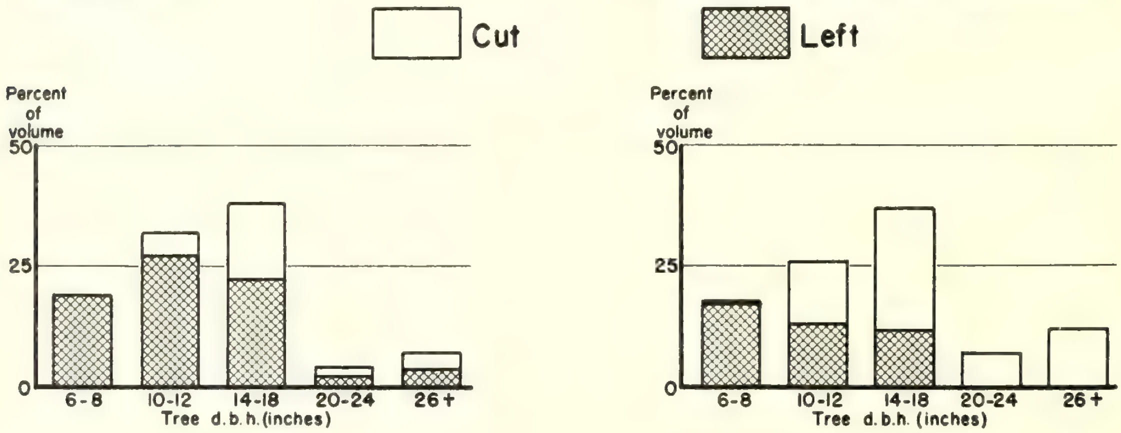
Pine tree grade has little effect on cutting for small mills, since virtually all sawlogs are cut regardless of grade. In pine cutting for large mills, some pine sawlog growing stock is left, chiefly in the lower grades. In hardwood stands, logging removes all grade 1 trees. Of the volume in grades 2 and 3, however, a considerably larger proportion is left after cutting for large mills than for small mills.

## How Hardwood Stands Look After Sawlog Cutting—

(Cubic-foot growing stock by tree diameter, and proportion cut and left)

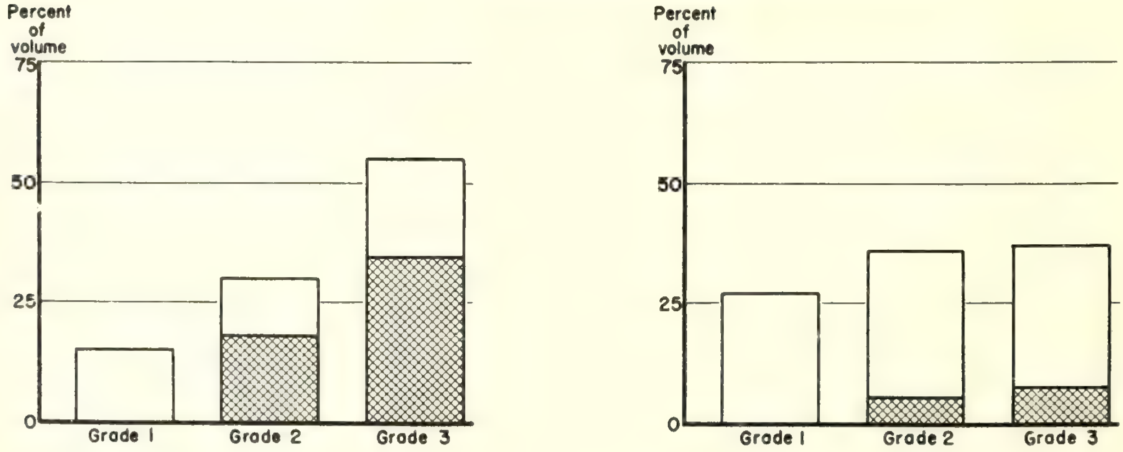
**—Low-value Species**
(hickory and black gum as examples)

**—High-value Species**
(yellow-poplar and white and cherrybark oaks as examples)



In all tree sizes, high-value species are generally cut much more severely for sawlogs than are typically low-value species.

(Sawlog growing stock by tree grade, and proportion cut and left)



Grade 1 trees tend to be cut regardless of species, but in grades 2 and 3 the high-value species are cut much more heavily than the low-value species. More of the low-value species are left in the residual stands.

## The Field Survey and Its Accuracy

This report is based on measurements of 104 quarter-acre sample plots taken in 1947 on logging operations throughout the State of Mississippi. The plots were selected by products roughly in proportion to 1946 drain. Fence posts, poles, piling, and miscellaneous products were omitted from the study, but these products accounted for only 8 percent of the drain. Their omission permitted stronger sampling of other minor products.

| Product | Timber drain, 1946 (Percent) |
|---|---|
| Lumber | 51 |
| Pulpwood | 15 |
| Fuel wood | 15 |
| Hewn ties | 5 |
| Veneer | 3 |
| Cooperage | 3 |
| Poles and piling | 2 |
| Fence posts | 1 |
| Miscellaneous | 5 |
| Total | 100 |

The location of sample plots was controlled to insure geographical coverage of each product in proportion to drain, but within each locality plots were chosen at random. With few exceptions, plots were taken on going operations so that products could be measured and their volume assigned to the particular trees from which they were cut. Products were sampled separately--i.e., cutting on any one plot was for one timber product only.

Cutting on each plot was usually either of pine or of hardwood species. Pine and hardwood species were cut together on one-tenth of the plots, but in all these instances the volume of hardwoods removed was far less than that of pine. This indicates that in mixed stands, cutting emphasizes pine; hardwoods are cut only occasionally in such stands, and in a highly selective fashion.

Sampling proved to be adequate for most of the statistical compilations sought. Where inadequate, data were combined into larger classes, and in several of the charts, minor products were omitted. These are the standard errors of estimate for statistics in a typical chart:

| Diameter breast high (inches) | Estimate of pine volume cut for small sawmills | Standard error of estimate |
|---|---|---|
| | Percent | |
| 6 - 8 | 4 | ± 2 |
| 10 - 12 | 31 | ± 6 |
| 14 - 18 | 48 | ± 6 |
| 20 - 24 | 14 | ± 6 |
| 26 and up | 3 | ± 3 |

Following are the highest standard errors for any chart in the report:

| Diameter breast high (inches) | Estimate of hardwood volume cut for veneer logs | Standard error of estimate |
|---|---|---|
| | Percent | |
| 14 - 18 | 5 | ± 4 |
| 20 - 24 | 37 | ±10 |
| 26 and up | 58 | ±15 |

## Definition of Terms

### Class of Timber

Growing stock. Sawlog growing stock is the sawlog portion of sawlog trees. Total growing stock includes sawlog growing stock, upper stems of pine sawlog trees, and entire stems of cordwood trees to a minimum diameter of 4 inches inside bark.

Sawlog tree. A live, merchantable pine 9.0 inches or larger in d.b.h., or a live, merchantable hardwood 11.0 inches or larger in d.b.h. To be merchantable, the tree must have at least a merchantable 12-foot butt log or 50 percent of its gross volume in merchantable logs.

Cordwood tree. A live tree 5.0 inches or larger in d.b.h., but smaller than sawlog size, which would become a sawlog tree if it should grow to sawlog size.

### Volume

Board-foot (sawlog) volume. Net volume in merchantable sawlogs in sawlog trees, measured in board feet by the International 1/4-inch log rule (sawlog growing stock).

Cubic-foot volume. Net volume of total growing stock, measured in cubic feet (cubic-foot growing stock).

### Diameter

D.b.h. (diameter breast high). Tree diameter in inches, outside bark, measured at 4½ feet above ground.

Diameter class. Each 2-inch diameter class includes diameters 1.0 inch below and 0.9 inch above the stated midpoint. E.g., the 12-inch class includes trees 11.0 inches through 12.9 inches.

## Size of Sawmill

Large sawmill. A sawmill producing at least 3 million board feet of lumber annually.

Small sawmill. A sawmill producing less than 3 million board feet of lumber annually

## Tree Grade

Pine:

Grade 1 (smooth trees). Not less than 20 feet of clear bole and at least 40 percent of the merchantable length clear of limbs and knots in sections not less than 8 feet in length.

Grade 2 (limby trees). Not less than 12 feet of clear bole and 25 to 39 percent of the merchantable length clear of limbs and knots in sections not less than 8 feet in length.

Grade 3 (rough trees). Merchantable trees below grade 2 specifications.

Hardwood: 6/ (Tree grade is same as grade of butt log)

Grade 1. Smooth, generally clear logs which yield at least one-half of their volume in higher grades of lumber.

Grade 2. Logs of average clearness which yield from one-third to one-half of their volume in higher grades of lumber.

Grade 3. Small logs or logs of less than average clearness which yield less than one-third of their volume in higher grades of lumber; or sound, straight logs with many small defects which make them suitable only for ties and timbers.

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6/ For detailed external specifications of log grades used, see "Interim Sawlog Grades for Southern Hardwoods." Southern Forest Experiment Station, 9pp. (Processed.) 1948, rev.

OREST SURVEY RELEASE 61 JUNE 1949

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# PULPWOOD PRODUCTION
## IN SOUTHERN FOREST SURVEY TERRITORY, 1948

By

Albert L. Tofte and William S. Stover

SOUTHERN FOREST EXPERIMENT STATION
Chas. A. Connaughton, Director
New Orleans, La.

# THE SOUTHERN FOREST SURVEY

The Southern Forest Survey, an activity of the Southern Forest Experiment Station, covers the seven States of the Station's territory--Alabama, Arkansas, Louisiana, Mississippi, Oklahoma, Tennessee, and Texas. This Survey is a part of the nation-wide Forest Survey authorized by the McSweeney-McNary Forest Research Act of 1928. Its five-fold purpose is (1) to take inventory of the supply of standing timber and other forest products; (2) to ascertain the rate at which this supply is being increased through growth; (3) to determine the rate at which this supply is being diminished through industrial and local use, and by fire, insects, disease, and other agencies; (4) to estimate the present requirements and the probable future trend in the requirements for timber and other forest products; and (5) to correlate these findings with existing and anticipated economic conditions, in order that policies may be formulated for the effective use of lands suitable for forest production.

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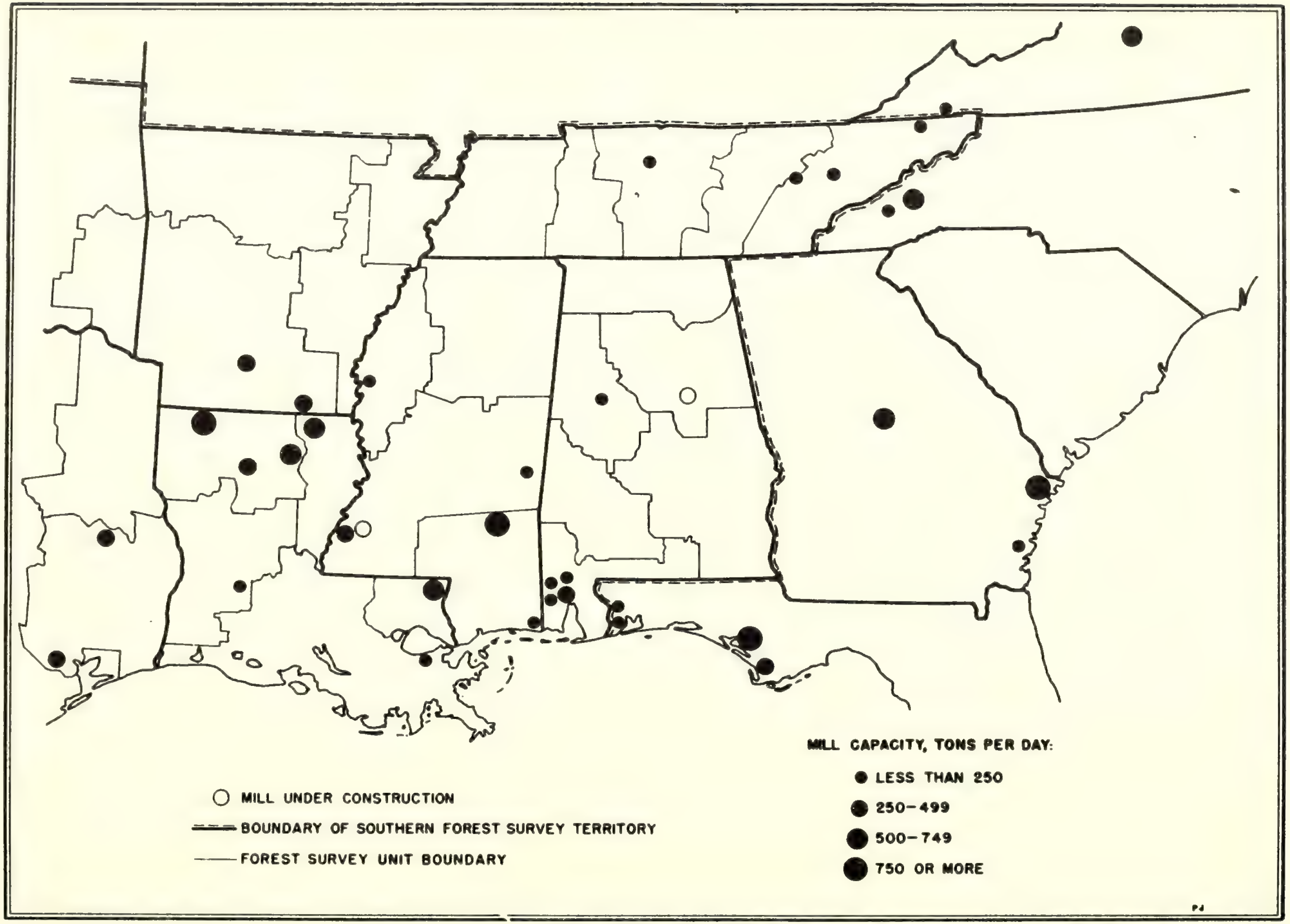

MILL CAPACITY, TONS PER DAY:
● LESS THAN 250
● 250-499
● 500-749
● 750 OR MORE
○ MILL UNDER CONSTRUCTION
BOUNDARY OF SOUTHERN FOREST SURVEY TERRITORY
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Figure 1.--Pulp mills drawing wood from Southern Forest Survey territory, 1948.

# PULPWOOD PRODUCTION IN SOUTHERN FOREST SURVEY TERRITORY, 1948

By Albert L. Tofte and William S. Stover
Southern Forest Experiment Station

Pulpwood production in the seven States of Southern Forest Survey territory reached another all-time high in 1948. Total production was 5,025,900 cords, an increase of 14 percent over 1947. Each of the seven States showed an increase (table 1).

Largest output was in Mississippi, where 1,433,900 cords were produced. Alabama had second largest production, with 981,900 cords, having moved from third place in 1947. Ranking of the other States was Louisiana, Texas, Arkansas, Tennessee, and Oklahoma, in the order named.

Pine accounted for 90 percent of the production, or 4,523,000 cords; hardwood accounted for 10 percent, or 502,900 cords. The pine pulpwood included all species of southern pines. Among the hardwoods, sweetgum and blackgum accounted for a major part of production, with lesser amounts of cottonwood, willow, and other species. In Tennessee, 43,535 cords were produced from dead chestnut, a decrease of 14 percent from 1947.

In addition to pulpwood produced from standing timber, 3,547 cords of veneer cores were used by pulp mills.

The pulpwood produced in Southern Forest Survey territory in 1948 went to 36 different pulp mills. Of these, 25 mills were located within the territory and 11 were outside--in Florida, Georgia, North Carolina, and Virginia (figure 1).

New pulp mills drawing wood from the territory went into operation during 1948 at Natchez, Mississippi; Pensacola, Florida; and Macon, Georgia. Another mill is under construction at Childersburg, Alabama, and plans have been announced for a mill at Natchez, Mississippi, to manufacture rayon pulp from hardwoods. In addition, expansion or modernization programs have been recently completed, are under way, or have been announced for 10 or more existing mills.

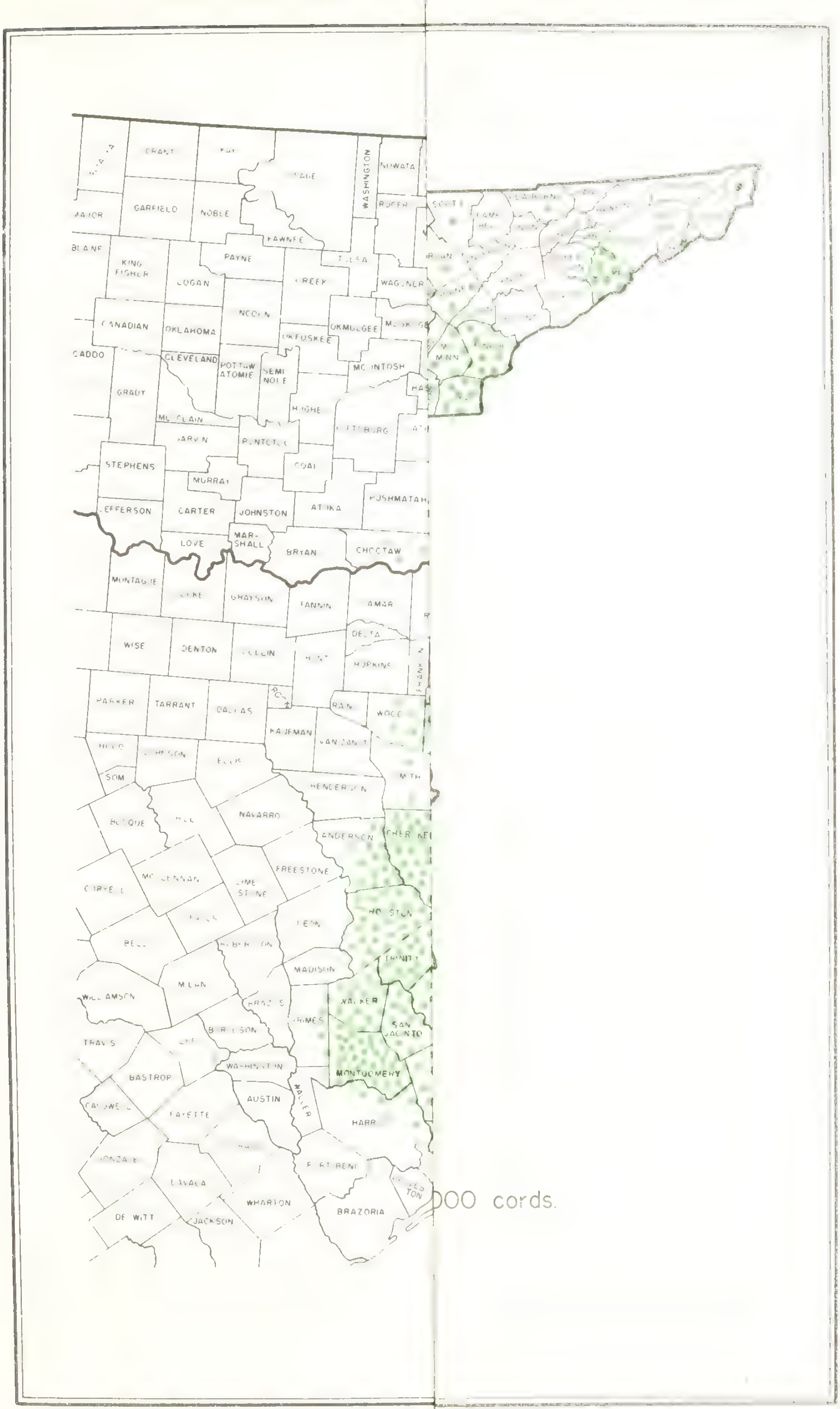
Table 1.--Pulpwood production in Southern Forest Survey territory, 1947 and 1948

| State | 1947 |  |  | 1948 |  |  | Increase from 1947 to 1948 |
|---|---|---|---|---|---|---|---|
|  | Total | Pine | Hard-wood | Total | Pine | Hard-wood |  |
|  | Thousand cords |  |  |  |  |  | Percent |
| Ala. | 777.7 | 749.4 | 28.3 | 981.9 | 932.2 | 49.7 | 26.3 |
| Ark. | 596.6 | 541.7 | 54.9 | 616.7 | 566.9 | 49.8 | 3.4 |
| La. | 870.3 | 842.5 | 27.8 | 953.8 | 910.7 | 43.1 | 9.6 |
| Miss. | 1,279.1 | 1,041.0 | 238.1 | 1,433.9 | 1,226.6 | 207.3 | 12.1 |
| Okla. | 29.9 | 29.9 | .. | 34.3 | 34.2 | 0.1 | 14.7 |
| Tenn. | 141.3 | 42.4 | 98.9 | 181.7 | 67.7 | 114.0 | 28.6 |
| Tex. | 711.1 | 667.2 | 43.9 | 823.6 | 784.7 | 38.9 | 15.8 |
| All States | 4,406.0 | 3,914.1 | 491.9 | 5,025.9 | 4,523.0 | 502.9 | 14.1 |

Production of pulpwood by county is shown in figure 2 and in tables 2 through 8.

Data on 1948 pulpwood production in this release are based on reports from the 36 pulp mills drawing wood from Southern Forest Survey territory and on Louisiana and Mississippi severance-tax data. County data are based on county or shipping-point information furnished by 32 mills and on severance-tax data. The county data are only approximate, but totals for groups of counties should have little error.

All volumes are in standard cords (128 cubic feet) of rough wood, bark included.


GRANT
WASHINGTON
NOWATA
MAJOR
GARFIELD
NOBLE
PAWNEE
BLAINE
KING FISHER
PAYNE
LOGAN
WAGONER
CANADIAN
OKLAHOMA
OKMULGEE
OKFUSKEE
CADDO
CLEVELAND
POTTAWATOMIE
SEMINOLE
MC INTOSH
GRADY
MC CLAIN
GARVIN
STEPHENS
MURRAY
COAL
JEFFERSON
CARTER
JOHNSTON
PUSHMATAHA
LOVE
MAR-SHALL
BRYAN
CHOCTAW
MONTAGUE
GRAYSON
FANNIN
LAMAR
DELTA
WISE
DENTON
HOPKINS
PARKER
TARRANT
DALLAS
KAUFMAN
VAN ZANDT
HENDERSON
NAVARRO
ANDERSON
FREESTONE
MC LENNAN
LIMESTONE
BELL
HOUSTON
MADISON
MILAM
TRINITY
WILLIAMSON
WALKER
SAN JACINTO
TRAVIS
BASTROP
MONTGOMERY
AUSTIN
FAYETTE
HARRIS
LAVACA
WHARTON
BRAZORIA
DE WITT
JACKSON
000 cords.

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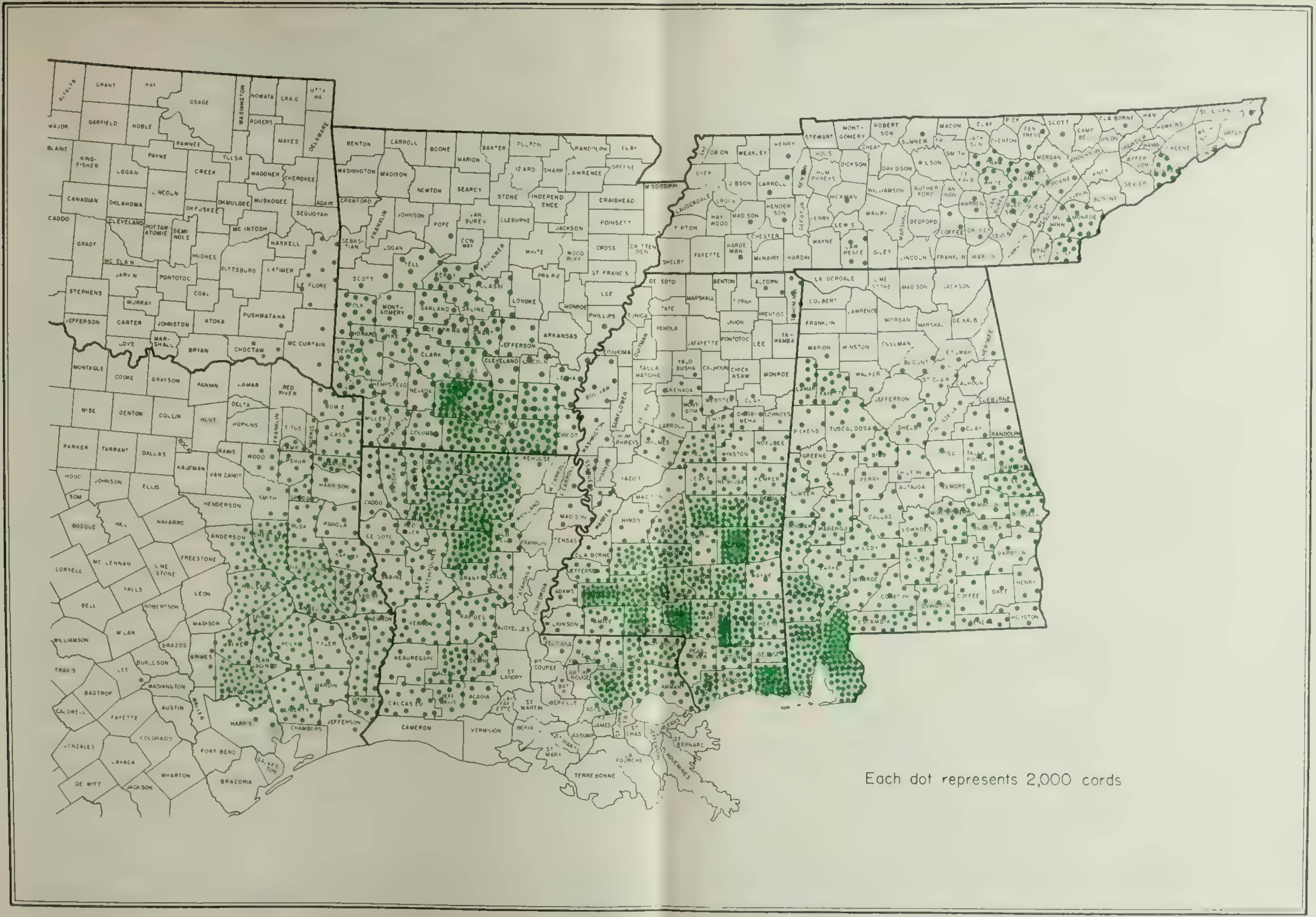

Figure 2.—Pulpwood production by county in Southern Forest Survey territory, 1948.

Table 2.--Pulpwood production in Alabama, 1948

| County | Pine | Hardwood | Total |
|---|---|---|---|
| | - - - - - - - - | Standard cords | - - - - - - - - |
| Autauga | 2,236 | .. | 2,236 |
| Baldwin | 157,416 | .. | 157,416 |
| Barbour | 10,375 | 90 | 10,465 |
| Bibb | 16,413 | 1,575 | 17,988 |
| Blount | 5,523 | .. | 5,523 |
| Bullock | 14,863 | 64 | 14,927 |
| Butler | 19,698 | .. | 19,698 |
| Calhoun | 2,236 | 10 | 2,246 |
| Chambers | 24,751 | .. | 24,751 |
| Cherokee | 2,517 | .. | 2,517 |
| Chilton | 4,462 | 3,675 | 8,137 |
| Choctaw | 25,732 | .. | 25,732 |
| Clarke | 35,342 | 2,250 | 37,592 |
| Clay | 7,399 | .. | 7,399 |
| Cleburne | 283 | .. | 283 |
| Coffee | 8,876 | .. | 8,876 |
| Colbert | 348 | .. | 348 |
| Conecuh | 15,895 | .. | 15,895 |
| Coosa | 4,020 | .. | 4,020 |
| Covington | 24,851 | .. | 24,851 |
| Crenshaw | 6,197 | .. | 6,197 |
| Cullman | .. | .. | .. |
| Dale | 1,092 | .. | 1,092 |
| Dallas | 14,216 | .. | 14,216 |
| De Kalb | 126 | .. | 126 |
| Elmore | 4,295 | .. | 4,295 |
| Escambia | 31,215 | .. | 31,215 |
| Etowah | 1,390 | .. | 1,390 |
| Fayette | 16,273 | 5,550 | 21,823 |
| Franklin | 417 | .. | 417 |
| Geneva | 12,083 | .. | 12,083 |
| Greene | 7,982 | 1,538 | 9,520 |
| Hale | 8,970 | 1,050 | 10,020 |
| Henry | 7,015 | 271 | 7,286 |
| Houston | 7,334 | 38 | 7,372 |
| Jackson | .. | .. | .. |
| Jefferson | 1,154 | .. | 1,154 |
| Lamar | 4,842 | 14,775 | 19,617 |
| Lauderdale | .. | .. | .. |
| Lawrence | .. | .. | .. |

Table 2.--Pulpwood production in Alabama, 1948 (Continued)

| County | Pine | Hardwood | Total |
|---|---|---|---|
| | - - - - - - - - - | Standard cords | - - - - - |
| Lee | 30,264 | .. | 30,264 |
| Limestone | .. | .. | .. |
| Lowndes | 13,854 | .. | 13,854 |
| Macon | 15,466 | 52 | 15,518 |
| Madison | .. | .. | .. |
| Marengo | 28,792 | 75 | 28,867 |
| Marion | 1,162 | .. | 1,162 |
| Marshall | 43 | .. | 43 |
| Mobile | 93,292 | 3,412 | 96,704 |
| Monroe | 17,346 | .. | 17,346 |
| Montgomery | 26,572 | 48 | 26,620 |
| Morgan | 107 | .. | 107 |
| Perry | 8,430 | 1,876 | 10,306 |
| Pickens | 8,812 | .. | 8,812 |
| Pike | 11,466 | .. | 11,466 |
| Randolph | 4,869 | .. | 4,869 |
| Russell | 15,921 | 967 | 16,888 |
| St. Clair | 10,293 | .. | 10,293 |
| Shelby | 14,492 | .. | 14,492 |
| Sumter | 14,114 | 1,612 | 15,726 |
| Talladega | 4,371 | .. | 4,371 |
| Tallapoosa | 11,792 | .. | 11,792 |
| Tuscaloosa | 19,738 | 338 | 20,076 |
| Walker | 1,070 | .. | 1,070 |
| Washington | 51,372 | 9,525 | 60,897 |
| Wilcox | 20,724 | 750 | 21,474 |
| Winston | 45 | 150 | 195 |
| Total | 932,244 | 49,691 | 981,935 |

Table 3.--Pulpwood production in Arkansas, 1948

| County | Pine | Hardwood | Total |
|---|---|---|---|
| | - - - - - - - - Standard cords - - - - - - - | | |
| Arkansas | .. | .. | .. |
| Ashley | 43,240 | 6,137 | 49,377 |
| Baxter | 202 | .. | 202 |
| Benton | .. | .. | .. |
| Boone | .. | .. | .. |
| Bradley | 23,428 | 15 | 23,443 |
| Calhoun | 33,315 | 40 | 33,355 |
| Carroll | .. | .. | .. |
| Chicot | .. | 6,285 | 6,285 |
| Clark | 17,431 | 655 | 18,086 |
| Clay | .. | .. | .. |
| Cleburne | .. | .. | .. |
| Cleveland | 7,521 | 29 | 7,550 |
| Columbia | 16,897 | 593 | 17,490 |
| Conway | 153 | .. | 153 |
| Craighead | .. | .. | .. |
| Crawford | .. | .. | .. |
| Crittenden | .. | .. | .. |
| Cross | .. | .. | .. |
| Dallas | 17,274 | 993 | 18,267 |
| Desha | .. | 12,574 | 12,574 |
| Drew | 28,481 | 4,702 | 33,183 |
| Faulkner | 197 | .. | 197 |
| Franklin | .. | .. | .. |
| Fulton | .. | .. | .. |
| Garland | 16,580 | .. | 16,580 |
| Grant | 19,848 | 1,352 | 21,200 |
| Greene | .. | .. | .. |
| Hempstead | 12,083 | 233 | 12,316 |
| Hot Spring | 13,168 | 260 | 13,428 |
| Howard | 6,723 | 355 | 7,078 |
| Independence | .. | .. | .. |
| Izard | 249 | .. | 249 |
| Jackson | .. | .. | .. |
| Jefferson | 8,518 | 222 | 8,740 |
| Johnson | 936 | .. | 936 |
| Lafayette | 14,278 | 134 | 14,412 |
| Lawrence | .. | .. | .. |
| Lee | .. | .. | .. |
| Lincoln | 3,670 | 2,932 | 6,602 |

Table 3.--Pulpwood production in Arkansas, 1948 (Continued)

| County | Pine | Hardwood | Total |
|---|---|---|---|
| | Standard cords | | |
| Little River | 16,637 | 652 | 17,289 |
| Logan | 803 | .. | 803 |
| Lonoke | 271 | .. | 271 |
| Madison | .. | .. | .. |
| Marion | .. | .. | .. |
| Miller | 14,681 | 677 | 15,358 |
| Mississippi | .. | .. | .. |
| Monroe | .. | .. | .. |
| Montgomery | 5,431 | 20 | 5,451 |
| Nevada | 11,567 | 432 | 11,999 |
| Newton | .. | .. | .. |
| Ouachita | 56,878 | 1,343 | 58,221 |
| Perry | 17,915 | 16 | 17,931 |
| Phillips | .. | 2,095 | 2,095 |
| Pike | 19,344 | 795 | 20,139 |
| Poinsett | .. | .. | .. |
| Polk | 26,295 | .. | 26,295 |
| Pope | 2,603 | .. | 2,603 |
| Prairie | .. | .. | .. |
| Pulaski | 10,984 | 117 | 11,101 |
| Randolph | .. | .. | .. |
| St. Francis | .. | .. | .. |
| Saline | 14,112 | 249 | 14,361 |
| Scott | 3,409 | .. | 3,409 |
| Searcy | .. | .. | .. |
| Sebastian | 15 | .. | 15 |
| Sevier | 23,096 | .. | 23,096 |
| Sharp | .. | .. | .. |
| Stone | .. | .. | .. |
| Union | 44,492 | 5,858 | 50,350 |
| Van Buren | .. | .. | .. |
| Washington | .. | .. | .. |
| White | 229 | .. | 229 |
| Woodruff | .. | .. | .. |
| Yell | 14,007 | .. | 14,007 |
| Total | 566,961 | 49,765 | 616,726 |

Table 4.--Pulpwood production in Louisiana, 1948

| Parish | Pine | Hardwood | Total |
|---|---|---|---|
| | - - - - - - - - - | Standard cords | - - - - - |
| Acadia | 5,894 | 62 | 5,956 |
| Allen | 36,030 | 4,305 | 40,335 |
| Ascension | 3,712 | .. | 3,712 |
| Assumption | .. | .. | .. |
| Avoyelles | 102 | .. | 102 |
| Beauregard | 9,318 | 362 | 9,680 |
| Bienville | 56,564 | 896 | 57,460 |
| Bossier | 26,364 | 163 | 26,527 |
| Caddo | 19,495 | .. | 19,495 |
| Calcasieu | 24,578 | .. | 24,578 |
| Caldwell | 15,961 | 303 | 16,264 |
| Cameron | .. | .. | .. |
| Catahoula | 561 | 38 | 599 |
| Claiborne | 42,224 | 277 | 42,501 |
| Concordia | .. | .. | .. |
| De Soto | 17,662 | .. | 17,662 |
| East Baton Rouge | 4,319 | 297 | 4,616 |
| East Carroll | .. | 1,975 | 1,975 |
| East Feliciana | 15,659 | 1,206 | 16,865 |
| Evangeline | 24,070 | 163 | 24,233 |
| Franklin | 81 | .. | 81 |
| Grant | 16,842 | 127 | 16,969 |
| Iberia | .. | .. | .. |
| Iberville | .. | .. | .. |
| Jackson | 47,228 | 787 | 48,015 |
| Jefferson | .. | .. | .. |
| Jefferson Davis | 13,466 | 683 | 14,149 |
| Lafayette | .. | .. | .. |
| Lafourche | .. | .. | .. |
| La Salle | 18,499 | 66 | 18,565 |
| Lincoln | 23,218 | 1,112 | 24,330 |
| Livingston | 50,371 | 2,402 | 52,773 |
| Madison | .. | 6,736 | 6,736 |
| Morehouse | 3,861 | 2,246 | 6,107 |
| Natchitoches | 26,704 | .. | 26,704 |
| Orleans | .. | .. | .. |
| Quachita | 30,937 | 109 | 31,046 |
| Plaquemines | .. | .. | .. |
| Pointe Coupee | .. | .. | .. |
| Rapides | 40,499 | 462 | 40,961 |

Table 4.--Pulpwood production in Louisiana, 1948 (Continued)

| Parish | Pine | Hardwood | Total |
|---|---|---|---|
| | | Standard cords | |
| Red River | 10,866 | .. | 10,866 |
| Richland | 14 | .. | 14 |
| Sabine | 23,265 | .. | 23,265 |
| St. Bernard | .. | .. | .. |
| St. Charles | .. | .. | .. |
| St. Helena | 10,475 | 488 | 10,963 |
| St. James | .. | .. | .. |
| St. John the Baptist | .. | .. | .. |
| St. Landry | 934 | 15 | 949 |
| St. Martin | .. | .. | .. |
| St. Mary | .. | .. | .. |
| St. Tammany | 22,942 | 1,099 | 24,041 |
| Tangipahoa | 42,930 | 2,359 | 45,289 |
| Tensas | .. | .. | .. |
| Terrebonne | .. | .. | .. |
| Union | 54,674 | 10,916 | 65,590 |
| Vermilion | .. | .. | .. |
| Vernon | 39,355 | 586 | 39,941 |
| Washington | 35,374 | 1,892 | 37,266 |
| Webster | 25,718 | 164 | 25,882 |
| West Baton Rouge | .. | .. | .. |
| West Carroll | .. | .. | .. |
| West Feliciana | 1,710 | .. | 1,710 |
| Winn | 68,227 | 824 | 69,051 |
| Total | 910,703 | 43,120 | 953,823 |

Table 5.--Pulpwood production in Mississippi, 1948

| County | Pine | Hardwood | Total |
|---|---|---|---|
| | - - - - - - - - | Standard cords | - - - - - - |
| Adams | 3,785 | 1,493 | 5,278 |
| Alcorn | .. | 3,449 | 3,449 |
| Amite | 23,867 | 3,509 | 27,376 |
| Attala | 32,758 | 4,721 | 37,479 |
| Benton | .. | .. | .. |
| Bolivar | .. | 8,950 | 8,950 |
| Calhoun | .. | .. | .. |
| Carroll | 1,355 | 176 | 1,531 |
| Chickasaw | 447 | .. | 447 |
| Choctaw | 10,999 | 2,062 | 13,061 |
| Claiborne | 5,131 | 2,360 | 7,491 |
| Clarke | 31,219 | 3,528 | 34,747 |
| Clay | 1,318 | 242 | 1,560 |
| Coahoma | .. | .. | .. |
| Copiah | 37,792 | 7,282 | 45,074 |
| Covington | 24,424 | 6,868 | 31,292 |
| De Soto | .. | .. | .. |
| Forrest | 38,232 | 5,781 | 44,013 |
| Franklin | 54,109 | 9,017 | 63,126 |
| George | 15,050 | 1,788 | 16,838 |
| Greene | 27,789 | 2,052 | 29,841 |
| Grenada | 5,072 | 217 | 5,289 |
| Hancock | 32,656 | 212 | 32,868 |
| Harrison | 24,513 | 1,188 | 25,701 |
| Hinds | 10,991 | 1,603 | 12,594 |
| Holmes | 16,411 | 915 | 17,326 |
| Humphreys | 60 | 230 | 290 |
| Issaquena | .. | 13,970 | 13,970 |
| Itawamba | .. | .. | .. |
| Jackson | 75,225 | .. | 75,225 |
| Jasper | 67,945 | 9,237 | 77,182 |
| Jefferson | 11,651 | 4,163 | 15,814 |
| Jefferson Davis | 21,125 | 4,930 | 26,055 |
| Jones | 48,957 | 6,181 | 55,138 |
| Kemper | 14,834 | 805 | 15,639 |
| Lafayette | .. | .. | .. |
| Lamar | 19,354 | 3,044 | 22,398 |
| Lauderdale | 36,524 | 3,966 | 40,490 |
| Lawrence | 32,045 | 5,117 | 37,162 |
| Leake | 16,493 | 1,538 | 18,031 |

Table 5.--Pulpwood production in Mississippi, 1948 (Continued)

| County | Pine | Hardwood | Total |
|---|---|---|---|
| | | Standard cords | |
| Lee | .. | .. | .. |
| Leflore | 184 | 87 | 271 |
| Lincoln | 39,324 | 9,183 | 48,507 |
| Lowndes | 1,144 | 157 | 1,301 |
| Madison | 6,031 | 124 | 6,155 |
| Marion | 63,528 | 9,468 | 72,996 |
| Marshall | .. | .. | .. |
| Monroe | .. | .. | .. |
| Montgomery | 6,753 | 432 | 7,185 |
| Neshoba | 18,233 | 1,550 | 19,783 |
| Newton | 37,260 | 4,562 | 41,822 |
| Noxubee | 7,938 | 1,365 | 9,303 |
| Oktibbeha | 7,356 | 430 | 7,786 |
| Panola | .. | .. | .. |
| Pearl River | 20,401 | 3,749 | 24,150 |
| Perry | 37,096 | 6,402 | 43,498 |
| Pike | 32,602 | 5,870 | 38,472 |
| Pontotoc | .. | .. | .. |
| Prentiss | .. | 675 | 675 |
| Quitman | .. | .. | .. |
| Rankin | 42,353 | 6,319 | 48,672 |
| Scott | 48,618 | 7,112 | 55,730 |
| Sharkey | 867 | 280 | 1,147 |
| Simpson | 28,308 | 7,859 | 36,167 |
| Smith | 13,559 | 2,299 | 15,858 |
| Stone | 20,349 | 1,785 | 22,134 |
| Sunflower | 41 | .. | 41 |
| Tallahatchie | .. | 26 | 26 |
| Tate | .. | .. | .. |
| Tippah | .. | .. | .. |
| Tishomingo | 3,298 | 5,813 | 9,111 |
| Tunica | .. | .. | .. |
| Union | .. | .. | .. |
| Walthall | 11,402 | 2,311 | 13,713 |
| Warren | 15 | 709 | 724 |
| Washington | 15 | 3,855 | 3,870 |
| Wayne | 16,085 | 1,530 | 17,615 |
| Webster | 6,740 | 844 | 7,584 |
| Wilkinson | 6,391 | 1,214 | 7,605 |
| Winston | 7,449 | 662 | 8,111 |
| Yalobusha | 1,099 | 55 | 1,154 |
| Yazoo | .. | .. | .. |
| Total | 1,226,570 | 207,321 | 1,433,891 |

Table 6.--Pulpwood production in Oklahoma, 1948

| County 1/ | Pine | Hardwood | Total |
|---|---|---|---|
| | - - - - - - - - Standard cords - - - - - | | |
| Choctaw | 5,866 | .. | 5,866 |
| Latimer | 1,063 | .. | 1,063 |
| Le Flore | 20,638 | 16 | 20,654 |
| McCurtain | 4,400 | 29 | 4,429 |
| Pittsburg | 474 | .. | 474 |
| Pushmataha | 1,801 | 32 | 1,833 |
| Total | 34,242 | 77 | 34,319 |

1/ Counties with no pulpwood production are omitted.

Table 7.--Pulpwood production in Tennessee, 1948

| County | Pine | Hardwood | Chestnut | Total |
|---|---|---|---|---|
| | - - - - - - - - Standard cords - - - - - - - - | | | |
| Anderson | 457 | 18 | 14 | 489 |
| Bedford | .. | .. | 15 | 15 |
| Benton | .. | 2,437 | .. | 2,437 |
| Bledsoe | 2,981 | 4,050 | .. | 7,031 |
| Blount | 637 | 14 | .. | 651 |
| Bradley | 1,807 | 127 | .. | 1,934 |
| Campbell | 107 | .. | 159 | 266 |
| Cannon | .. | .. | 510 | 510 |
| Carroll | .. | 4,688 | .. | 4,688 |
| Carter | .. | .. | 863 | 863 |
| Cheatham | 10 | .. | .. | 10 |
| Chester | .. | .. | .. | .. |
| Claiborne | 690 | 470 | 1,749 | 2,909 |
| Clay | .. | .. | .. | .. |
| Cocke | 5,555 | 1,716 | 10,383 | 17,654 |
| Coffee | .. | 1,800 | 1,215 | 3,015 |
| Crockett | .. | .. | .. | .. |
| Cumberland | 9,941 | 9,014 | 198 | 19,153 |
| Davidson | .. | .. | .. | .. |
| Decatur | .. | .. | .. | .. |

Table 7.--Pulpwood production in Tennessee, 1948 (Continued)

| County | Pine | Hardwood | Chestnut | Total |
|---|---|---|---|---|
| | Standard cords | | | |
| De Kalb | .. | .. | .. | .. |
| Dickson | .. | .. | 60 | 60 |
| Dyer | .. | .. | .. | .. |
| Fayette | .. | .. | .. | .. |
| Fentress | .. | 3,466 | 1,068 | 4,534 |
| Franklin | 17 | .. | .. | 17 |
| Gibson | .. | .. | .. | .. |
| Giles | .. | .. | 855 | 855 |
| Grainger | 12 | .. | 31 | 43 |
| Greene | 104 | .. | 295 | 399 |
| Grundy | 1,144 | .. | 30 | 1,174 |
| Hamblen | .. | .. | .. | .. |
| Hamilton | 195 | 11 | 14 | 220 |
| Hancock | .. | .. | .. | .. |
| Hardeman | 31 | 2,963 | .. | 2,994 |
| Hardin | .. | .. | .. | .. |
| Hawkins | 88 | 300 | 396 | 784 |
| Haywood | .. | .. | .. | .. |
| Henderson | .. | 1,612 | .. | 1,612 |
| Henry | .. | 2,850 | .. | 2,850 |
| Hickman | .. | 488 | 525 | 1,013 |
| Houston | .. | .. | 30 | 30 |
| Humphreys | .. | .. | .. | .. |
| Jackson | .. | .. | .. | .. |
| Jefferson | .. | .. | .. | .. |
| Johnson | .. | .. | 2,669 | 2,669 |
| Knox | 62 | .. | .. | 62 |
| Lake | .. | .. | .. | .. |
| Lauderdale | .. | .. | .. | .. |
| Lawrence | .. | 7,313 | .. | 7,313 |
| Lewis | .. | 338 | 105 | 443 |
| Lincoln | .. | .. | 15 | 15 |
| Loudon | 182 | .. | .. | 182 |
| McMinn | 9,445 | 742 | 255 | 10,442 |
| McNairy | .. | 300 | .. | 300 |
| Macon | .. | .. | 105 | 105 |
| Madison | .. | 1,462 | .. | 1,462 |
| Marion | 13 | .. | .. | 13 |
| Marshall | .. | .. | 195 | 195 |
| Maury | .. | .. | 75 | 75 |

Table 7.--Pulpwood production in Tennessee, 1948 (Continued)

| County | Pine | Hardwood | Chestnut | Total |
|---|---|---|---|---|
| | - - - - - - - - - | Standard cords | - - - - - - | |
| Meigs | .. | .. | .. | .. |
| Monroe | 16,730 | 757 | 681 | 18,168 |
| Montgomery | .. | .. | .. | .. |
| Moore | .. | .. | .. | .. |
| Morgan | 280 | 1,162 | .. | 1,442 |
| Obion | .. | .. | .. | .. |
| Overton | 645 | .. | .. | 645 |
| Perry | .. | .. | .. | .. |
| Pickett | .. | .. | 186 | 186 |
| Polk | 13,647 | 2,006 | 672 | 16,325 |
| Putnam | 104 | 7,704 | 9,077 | 16,885 |
| Rhea | 1,924 | 335 | .. | 2,259 |
| Roane | 352 | 2,287 | 1,013 | 3,652 |
| Robertson | .. | .. | 90 | 90 |
| Rutherford | .. | .. | 135 | 135 |
| Scott | 146 | 2,362 | .. | 2,508 |
| Sequatchie | 215 | .. | .. | 215 |
| Sevier | .. | .. | 392 | 392 |
| Shelby | .. | .. | .. | .. |
| Smith | .. | .. | .. | .. |
| Stewart | .. | .. | .. | .. |
| Sullivan | 69 | .. | 20 | 89 |
| Sumner | .. | .. | 2,595 | 2,595 |
| Tipton | .. | .. | .. | .. |
| Trousdale | 16 | .. | .. | 16 |
| Unicoi | .. | 18 | 2,736 | 2,754 |
| Union | 16 | .. | .. | 16 |
| Van Buren | .. | .. | .. | .. |
| Warren | .. | 4,200 | 150 | 4,350 |
| Washington | 33 | .. | 89 | 122 |
| Wayne | .. | .. | .. | .. |
| Weakley | .. | 38 | .. | 38 |
| White | .. | 3,413 | 3,870 | 7,283 |
| Williamson | .. | .. | .. | .. |
| Wilson | .. | .. | .. | .. |
| Total | 67,655 | 70,461 | 43,535 | 181,651 |

Table 8.--Pulpwood production in Texas, 1948

| County 1/ | Pine | Hardwood | Total |
|---|---|---|---|
| | - - - - - - - - - | Standard cords | - - - - - - - |
| Anderson | 28,042 | 2,357 | 30,399 |
| Angelina | 36,093 | 981 | 37,074 |
| Bastrop | 39 | 190 | 229 |
| Bowie | 12,991 | 171 | 13,162 |
| Burleson | .. | 14 | 14 |
| Caldwell | .. | 59 | 59 |
| Camp | 5,040 | .. | 5,040 |
| Cass | 25,862 | .. | 25,862 |
| Cherokee | 58,004 | 2,881 | 60,885 |
| Fayette | .. | 100 | 100 |
| Franklin | 696 | .. | 696 |
| Gregg | 10,808 | 307 | 11,115 |
| Grimes | 8,485 | 146 | 8,631 |
| Hardin | 17,792 | 179 | 17,971 |
| Harris | 9,949 | 417 | 10,366 |
| Harrison | 4,157 | .. | 4,157 |
| Henderson | 835 | .. | 835 |
| Houston | 51,839 | 2,698 | 54,537 |
| Jasper | 32,782 | 4,571 | 37,353 |
| Jefferson | 4,264 | .. | 4,264 |
| Lee | .. | 1,369 | 1,369 |
| Leon | 13 | 17 | 30 |
| Liberty | 33,780 | 1,728 | 35,508 |
| Marion | 19,870 | .. | 19,870 |
| Montgomery | 71,132 | 1,383 | 72,515 |
| Morris | 6,734 | .. | 6,734 |
| Nacogdoches | 44,179 | 3,219 | 47,398 |
| Newton | 22,338 | 1,445 | 23,783 |
| Orange | 16,492 | 122 | 16,614 |
| Panola | 9,805 | 200 | 10,005 |
| Polk | 27,142 | 4,892 | 32,034 |
| Red River | 568 | .. | 568 |
| Rusk | 17,221 | 1,438 | 18,659 |
| Sabine | 18,472 | 376 | 18,848 |
| San Augustine | 28,466 | 76 | 28,542 |
| San Jacinto | 21,660 | 608 | 22,268 |
| Shelby | 23,715 | 839 | 24,554 |
| Smith | 7,027 | 342 | 7,369 |
| Titus | 306 | .. | 306 |
| Trinity | 37,201 | 1,806 | 39,007 |
| Tyler | 15,901 | 666 | 16,567 |
| Upshur | 11,268 | .. | 11,268 |
| Walker | 28,905 | 3,311 | 32,216 |
| Waller | 184 | .. | 184 |
| Wood | 14,658 | .. | 14,658 |
| Total | 784,715 | 38,908 | 823,623 |

1/ Counties with no pulpwood production are omitted.

OREST SURVEY RELEASE 62 NOVEMBER 1949

# MISSISSIPPI'S FOREST INDUSTRY

Lee M. James and Albert L. Tofte

A REPORT OF THE SOUTHERN FOREST SURVEY
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SOUTHERN FOREST EXPERIMENT STATION
Chas. A. Connaughton, Director
New Orleans, La.

AGRIC. - ATLANTA

# THE SOUTHERN FOREST SURVEY

The Southern Forest Survey, an activity of the Southern Forest Experiment Station, covers the seven States of the Station's territory--Alabama, Arkansas, Louisiana, Mississippi, Oklahoma, Tennessee, and Texas. This Survey is a part of the nation-wide Forest Survey authorized by the McSweeney-McNary Forest Research Act of 1928. Its five-fold purpose is (1) to take inventory of the supply of standing timber and other forest products; (2) to ascertain the rate at which this supply is being increased through growth; (3) to determine the rate at which this supply is being diminished through industrial and local use, and by fire, insects, disease, and other agencies; (4) to estimate the present requirements and the probable future trend in the requirements for timber and other forest products; and (5) to correlate these findings with existing and anticipated economic conditions, in order that policies may be formulated for the effective use of lands suitable for forest production.

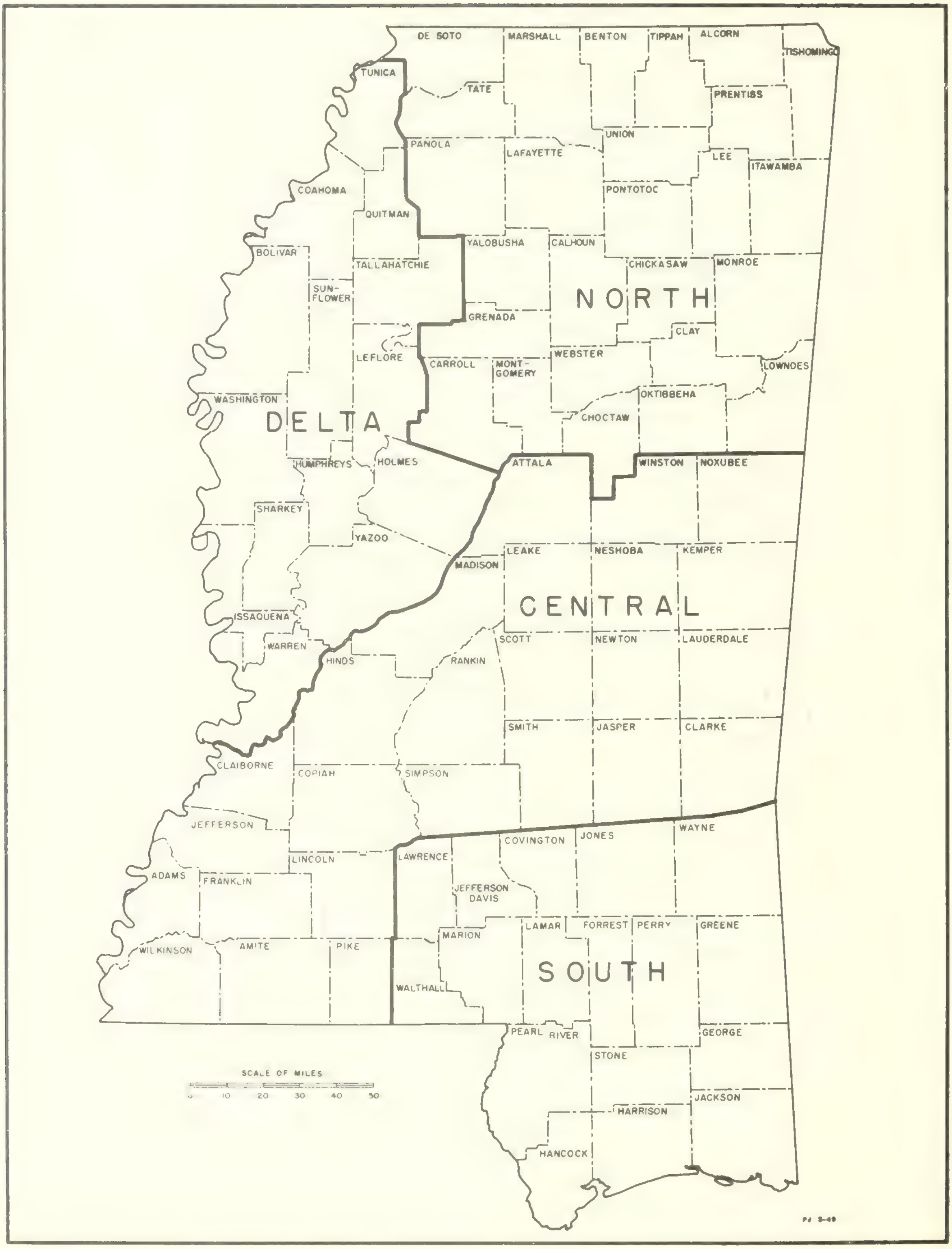

Figure 1.--Survey regions and counties in Mississippi.

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# MISSISSIPPI'S FOREST INDUSTRY

Lee M.James and Albert L. Tofte
Southern Forest Experiment Station

Timber is one of the chief sources of income to the people of Mississippi. It is therefore important to understand the forest industry that makes this income--the location of the industry, its timber production, its effect on the forest resource, and its prospects in the light of changing timber supplies. This report attempts to answer these questions. It is based mainly on the second Forest Survey of Mississippi, made in 1946-48,[1] and secondarily on the Survey of 1932-35.

## Summary

Timber products are one of the chief sources of income to Mississippians. The 1946 value of round or split timber products in Mississippi was $122 million, and further manufacture within the State added $130 million in value. The employment afforded by the forest-products industries was 68,000 man-years, but the actual number of workers was much larger than this.

About one-fifth of the timber cut is in the form of fuel wood, fence posts, and other items which are not transported to plants for further manufacture or are not moved to concentration points for shipment or treatment. All the rest of the timber cut goes to plants or concentration points.

Concentration points for hewn ties and poles and piling are well scattered throughout the regions in which these products are harvested. Sawmills--nearly 2,000 of them--are found throughout Mississippi, particularly in the central and north regions. Other plants using logs and bolts are also distributed fairly well in total. There are 38 nonlumber plants in the north, 54 in the central region, 39 in the south, and 23 in the Delta.

Most of the timber processed or consumed within the State is obtained locally. Fuel wood and fence posts are generally used on the same properties on which they are cut. From the same counties in which they are located, sawmills get 74 percent of their logs, cooperage plants get 61 percent of their timber, and veneer plants get 44 percent of their logs. But a substantial volume of timber is hauled longer distances to plants, particularly pulpwood. Pulp mills draw 45 percent of their wood from beyond a radius of 50 miles.

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[1] Location of forest-products plants and cutting operations, movement of timber products to plants, and production except for products of domestic use were determined from a 100-percent canvass of forest-industrial firms. Output of fuel wood, fence posts, and other items of domestic use was estimated from an area sample of producers.

Because a large volume of logs and bolts does move across several counties and because wood-using plants vary greatly in their timber consumption, the pattern of timber cutting differs markedly from the pattern of plant location. The central region is easily the heaviest timber-cutting region of the State. It has 36 percent of the forest area, but turns out 59 percent of the unprocessed softwood logs and bolts and 43 percent of the hardwood products. It supplies more than half the sawlogs, pulpwood, and hewn ties, half the veneer logs, and nearly 40 percent of the cooperage bolts. South Mississippi furnishes 20 percent of the total raw products; north Mississippi, 19 percent; the Delta, 10 percent.

Cutting to a low minimum tree diameter is the usual type of cutting in Mississippi, but it varies by products. The average sawlog cutting in pine stands takes nearly all trees over 12 inches in diameter and almost three-fourths of the 10- and 12-inch trees. Pulpwood cutting goes down to smaller sizes--it takes three-fourths of the 6- and 8-inch trees. Other pine products are not cut so heavily as pulpwood and sawlogs.

Hardwood cutting does not usually remove as large a portion of the stand volume as pine cutting, but its effect on the stand is probably as severe when tree grade and species selection are considered. The typical hardwood operator cutting sawlog-size trees for any product takes all the trees with grade 1 logs and more than two-thirds of the trees with grade 2 logs. The merchantable trees left standing are chiefly lower grade. Moreover, cutting is concentrated among the more valuable species.

In the 14 years between the two Forest Surveys, Mississippi's forest resource has continued to decline in important respects. Softwood total growing stock (trees 5 inches or larger in diameter breast high) has dropped 20 percent in volume, with the heaviest losses occurring in the larger tree sizes. Hardwood growing stock has held its own in total; but the drain has been in the more valuable species and the larger trees, while compensating growth has been in the less desirable species and sizes. Hardwood sawlog volume has been cut back 20 percent in the 14 years. In upland areas, pine forests (in which pines make up at least a fourth of the dominant trees) have been replaced by generally less valuable hardwood forests on 2.2 million acres.

Mississippi's forest-products industries are based on a declining resource, but at least since World War I there has been no falling off in total raw timber output. The volume of total timber cut has been sustained primarily by a tremendous increase in pulpwood production (for which small timber is usually preferred) and by industry adjustments in the utilization of other products. One of the most significant of these adjustments has been a strong shift in lumber manufacture from large mills sawing millions of board feet annually to small portable mills which can operate in scattered stands of small timber. These small mills now manufacture 60 percent of all lumber. Another important adjustment has been a gradual shift in both lumber and pulpwood production from softwood species to the more plentiful hardwoods.

In view of the changes in the forest resource between the two Forest Surveys, the prospect of sustaining timber output for most products at recent levels is doubtful. In fact, it seems certain that under prevailing conditions of forest management there will be sharp declines in the output of important products like softwood lumber, softwood pulpwood, and veneer. Only through immediate and considerable improvements in forest management and by further adjustments in utilization can the forest industry hope to sustain timber production at the levels of recent years.

## Income and Employment

The 1946 value of raw timber products (logs, bolts, and other round or split products, and also gum and wood naval stores) in Mississippi was $122 million. Further manufacture within the State added $130 million in value (figure 2). One group of products--lumber, veneer, cooperage, and plywood--makes up three-fifths of the total value of $252 million.

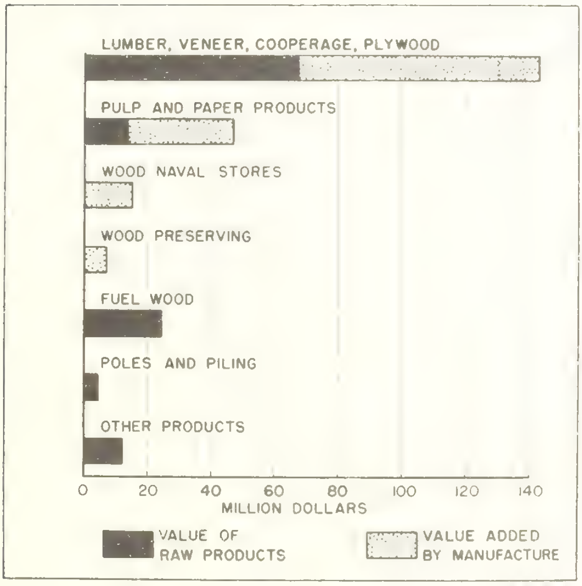

Figure 2.--Value of raw timber products and value added by manufacture, 1946.

In terms of those income payments to the people of Mississippi which are directly attributable to timber products, the value of $252 million is reduced to some $202 million.[2] This $202 million is 17 percent of the 1946 total income payments from all sources ($1,182 million) to the people of the State (table 1). This compares with 23 percent from agriculture, 24 percent from trades and services, 25 percent from all forms of government, and 11 percent from industries other than forest-products industries and miscellaneous sources.

---

[2] An estimated $22 million worth of fuel wood and other timber products is used on the farm but is never sold. In addition, an estimated $28 million is credited to nontimber sources of income or to the net flow of profit to people outside the State.

Table 1.--Income payments to people of Mississippi, 1946

| Source[1] | Million dollars | Percent |
|---|---|---|
| Government | 294 | 25 |
| Trades and services | 288 | 24 |
| Agriculture | 270 | 23 |
| Timber products | 202 | 17 |
| Other manufactures and miscellaneous sources | 128 | 11 |
| Total | 1,182 | 100 |

[1] Total income payments and income payments from government, trades and services, and agriculture are from "Survey of Current Business," U. S. Bureau of Foreign and Domestic Commerce, August 1947. Income from timber products is derived from calculated value of raw timber products and value added by manufacture. Income from other manufactures and miscellaneous sources is a residual between total income payments and all other items in table.

How many workers find employment in forest industry cannot be estimated with accuracy, since much of the employment is part-time. Woods workers commonly are farm workers who supplement their farm income with seasonal woods labor. But in terms of full employment (fifty 40-hour weeks a year), Mississippi's forest industry provides about 68,000 man-years of employment--35,000 in cutting products in the woods and hauling them to mills, and 33,000 in manufacture (table 2).

Table 2.--Employment in forest industry, 1946

| Forest industry | Woods | Mill | Total |
|---|---|---|---|
| | ----- Man-years ---- | | |
| Lumber and lumber products | 12,100 | 20,900 | 33,000 |
| Pulp and paper products | 6,200 | 4,700 | 10,900 |
| Veneer, plywood, and cooperage | 2,400 | 4,600 | 7,000 |
| Naval stores | 2,100 | 1,700 | 3,800 |
| Wood preserving | ... | 1,000 | 1,000 |
| Poles and piling | 1,900 | ... | 1,900 |
| Hewn ties | 1,700 | ... | 1,700 |
| Fuel wood and other farm use | 8,800 | ... | 8,800 |
| Total | 35,200 | 32,900 | 68,100 |

## Production

The 1946 cubic volume of all timber products in the round or split piece was 473.5 million cubic feet--239.3 million in hardwood, 234.2 million in softwood (table 4, page 28).

In the matter of softwood volume, the spotlight is held primarily by sawlogs and secondarily by pulpwood (table 3). Together, these items account for 85 percent of the total. Poles and piling and fuel wood, although important, are a poor third and fourth in the total softwood output. Among hardwood products, fuel wood is just behind sawlogs. Pulpwood, in third place, has come up rapidly, but still comprises only 8 percent of the hardwood output.

Table 3.--Distribution of volume of output by round or split timber product and species group, 1946

| Product | Softwood | Hardwood | All species |
|---|---|---|---|
| | | Percent | |
| Sawlogs | 54 | 37 | 46 |
| Fuel wood | 5 | 34 | 19 |
| Pulpwood | 31 | 8 | 19 |
| Poles and piling | 6 | 0 | 3 |
| Cooperage bolts | (1/) | 6 | 3 |
| Veneer logs | 1 | 5 | 3 |
| All other | 3 | 10 | 7 |
| Total | 100 | 100 | 100 |

1/ Negligible.

## Lumber

Lumber has long been--and still is--the dominant product of Mississippi's forest industry, but its heyday is past.

Early production was mainly for local use. The opportunity for export to the northern and central States did not come until the lumber industry had cut deep into the pineries of the Lake States late in the last century and turned southward for new sources of pine. In Mississippi, the Illinois Central, the Southern, and the Gulf and Ship Island Railroads opened up the virgin pine forests to exploitation. By 1902, when the last of these railroads was built, lumbering got under way in earnest. Softwood lumber manufacture rose rapidly to 2.2 billion board feet, mill tally, in 1909 and reached its all-time peak of 2.6 billion feet in 1925.

Throughout the period 1904-29, softwood lumber manufacture in Mississippi rose at the average rate of nearly 20 million board feet a year. But in 1929 the era of big production came abruptly to its end. Softwood lumber output plunged from 2.2 billion board feet in 1929 to a low of 0.4 billion in 1932 (figure 3).

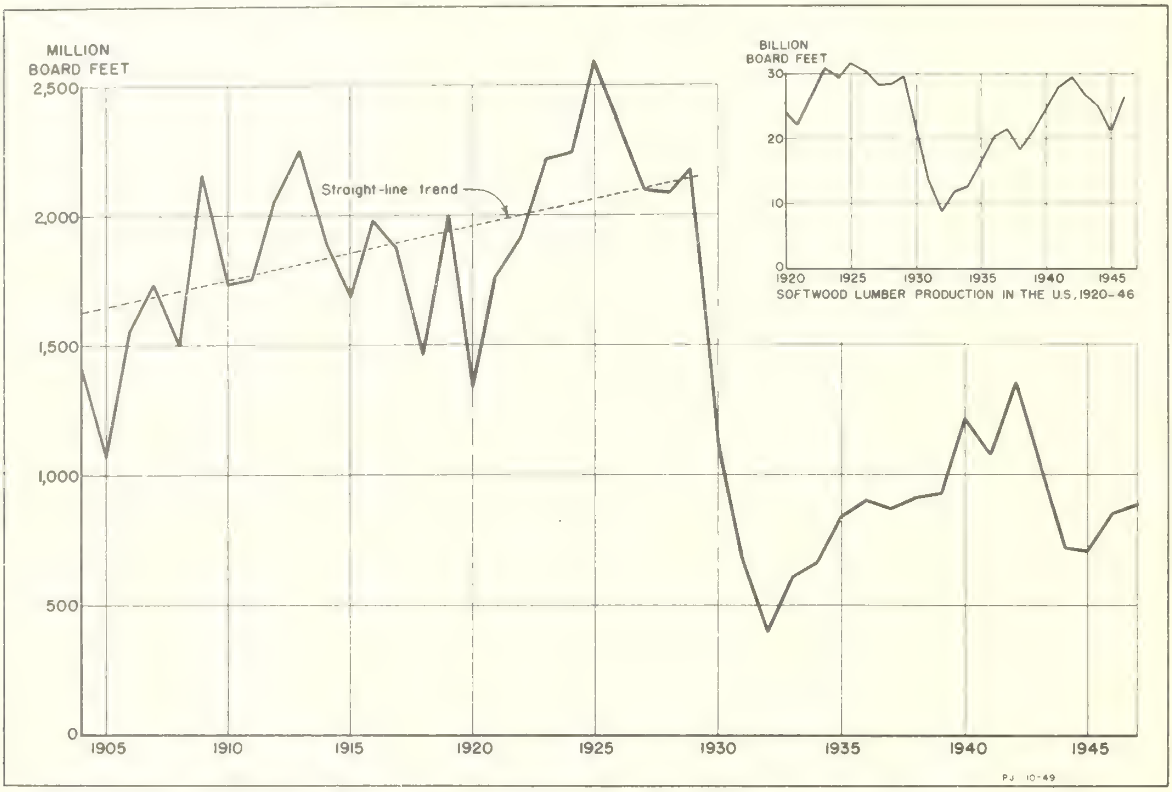

Figure 3.--Softwood lumber production in Mississippi, 1904-47. (Source: U. S. Bureau of the Census.)

Softwood lumber manufacture was sharply curtailed over the whole country by the Great Depression, but after 1932 it climbed back fairly rapidly. In 1939-46, annual softwood lumber production nationally averaged 90 percent of what it was in the 1920's. In Mississippi, however, no such recovery took place; annual softwood lumber output averaged less than half that of the 1920's.

Hardwood lumber manufacture in Mississippi, until recent years, lagged far behind softwood. Its prewar peak of 567 million board feet in 1924 was only one-fourth of softwood manufacture in the same year. Nevertheless, the trend of hardwood lumber production has been up over the years, and wartime output of hardwood lumber was greater than in any previous years (figure 4). By 1945, hardwood manufacture was nearly nine-tenths of softwood.

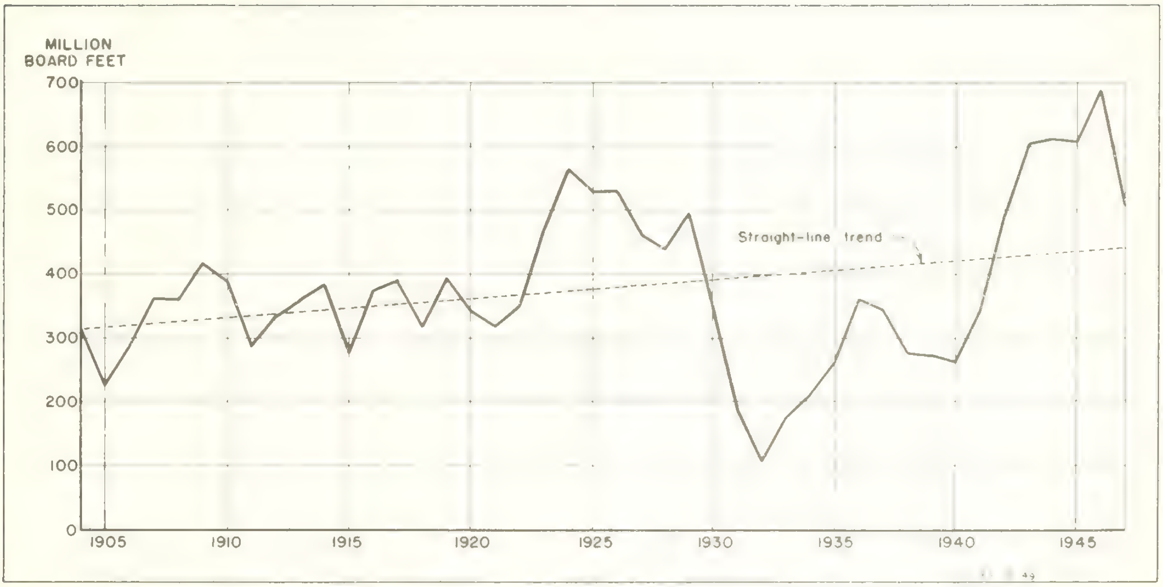

Figure 4.--Hardwood lumber production, 1904-47. (Source: U. S. Bureau of the Census.)

Much of the wartime boost in hardwood lumber manufacture was due to the rapid expansion of special uses for which hardwood was satisfactory at a time when pine lumber was in short supply. There was one-third more standing hardwood saw timber than softwood, and quality was of less concern than at any time before or since; hardwood could, therefore, be drawn on to help meet the intense wartime demand.

Pulpwood

The spectacular growth of pulpwood cutting in Mississippi is the most notable of all timber production trends. From less than 300,000 standard cords (128 cubic feet per cord) in 1936, output jumped to 1,434,000 cords in 1948--the average increase was nearly 100,000 cords a year (figure 5). A remarkable feature of this upward trend was its steady persistence through major changes in the economy from peace to war to peace again.

One reason for the rate of increase in pulpwood output was that out-of-state mills drew heavily on Mississippi timber.

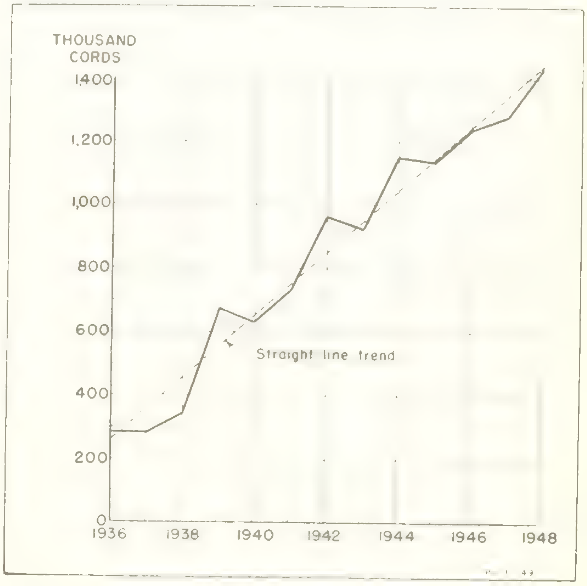

Figure 5.--Pulpwood production, 1936-48.

Of the 1,238,200 cords of pulpwood cut in the State in 1946, some 703,000 cords went to mills outside the State.

This tremendous growth in pulpwood cutting was enough to compensate, in terms of solid volume, for the large decline in softwood lumber manufacture since World War I. If it had not been for pulpwood, Mississippi's total raw wood production would have declined nearly one-third.

## Naval stores

Heavy yield of gum naval stores coincided with the big lumbering operations in Mississippi's longleaf pine belt. By 1921, the yield of gum naval stores in the State reached its all-time peak of 53,000 barrels (50 gallons per barrel) of turpentine and 185,000 barrels (500 pounds per barrel) of rosin. Thereafter, yield fell off rapidly as the virgin longleaf was depleted. The end of the era of big softwood lumber manufacture in 1929 was also the end of big output in gum naval stores.

The general increase in economic activity from the depression of the 1930's was not shared by gum naval stores in Mississippi. Added to the problem of falling demand was a problem of rising costs in operating the smaller trees left for chipping and mounting labor costs in what is essentially a handicraft industry. By 1938, gum yield had recovered to only 32 percent of the 1921 peak. Subsequently, it dropped year by year to a mere 4 percent in 1946.

The yield of naval stores in Mississippi from stumps of old-growth longleaf and slash pines has come up rapidly in recent years. In 1936, some 300,000 short tons of stumps were pulled from the ground; in 1947, 623,000 tons. This expansion in wood naval stores has been enough to counterbalance the decline of the gum naval stores industry.

## Veneer

Veneers produced in Mississippi are chiefly for the package and plywood industries, although some logs go into face veneers. Despite sharp cyclical changes in the volume of veneer logs cut, the trend, from the beginning of the record in 1906, has been upward at the average rate of more than 2 million board feet a year. In 1946, the cut of veneer logs hit an all-time peak of 110 million board feet (International 1/4-inch rule).

## Cooperage

The volume of tight cooperage cut rose to about 40 million board feet of logs in 1910, then declined at a fairly rapid rate. Production has followed the erratic course of demand, reaching 40 million board feet (International 1/4-inch rule) again in 1946, but in general it has remained well below the peak years which preceded World War I. A prominent factor in the decline was the early cutting out of the best white oak.

Slack cooperage has more varied uses than tight cooperage and thus a more stable market. It also takes a wider variety of tree species, sizes, and grades. Consequently, it has had a long period of steady growth in production. The prewar peak of 30 million board feet of logs in 1929 was at least doubled in 1946.

### Other products

Fuel wood ranks with pulpwood in volume of output. It accounts for 19 percent of round and split timber products. Although data on trends in production are exceedingly scarce, the long-term trend is clearly downward. This is obvious from the consistent inroads made by other fuels like coal, oil, and gas into fuel wood's traditional use. Little fuel wood is used off the farm, and even on the farm, its use has been falling off. Nearly one-fourth of Mississippi's farmers use some other fuel either exclusively or predominantly. This is only partly because the timber resource is diminishing. To many farmers, coal, oil, and gas appear to be superior fuels, and they eliminate the chore of chopping wood.

All other products--hewn ties, poles and piling, fence posts, and miscellaneous items--account for only one-tenth of the volume of logs and bolts. These products are not so important to the economy of Mississippi as are most of those previously described. Although trends are uncertain, it is clear from regional data that logging for hewn ties and poles and piling has fluctuated cyclically in response to the demand of specialized markets.

## Location of Plants Processing Raw Products

Sawmills are the most numerous wood-processing plants in Mississippi (figure 6). The 1,981 active sawmills are most heavily concentrated in the north and central regions of the State; they are least concentrated in the Delta. A majority of sawmills--1,248 --are classed as small mills (sawing less than 500,000 board feet of lumber apiece annually). Medium-size mills (sawing from 500,000 to 2,999,000 feet) number 631. There are only 102 large mills which saw 3,000,000 or more feet a year.

In 1946 there were 202 idle sawmills in the State. Although most of these mills are small, they comprise an important marginal element in the industry. Their owners are usually farmers who saw lumber only when they need some or when the opportunity for profit looks good.

Figure 7 shows the locations of plants other than sawmills that process raw forest products. Five pulp mills are shown, although the fifth mill, at Natchez, was built after 1946. A sixth

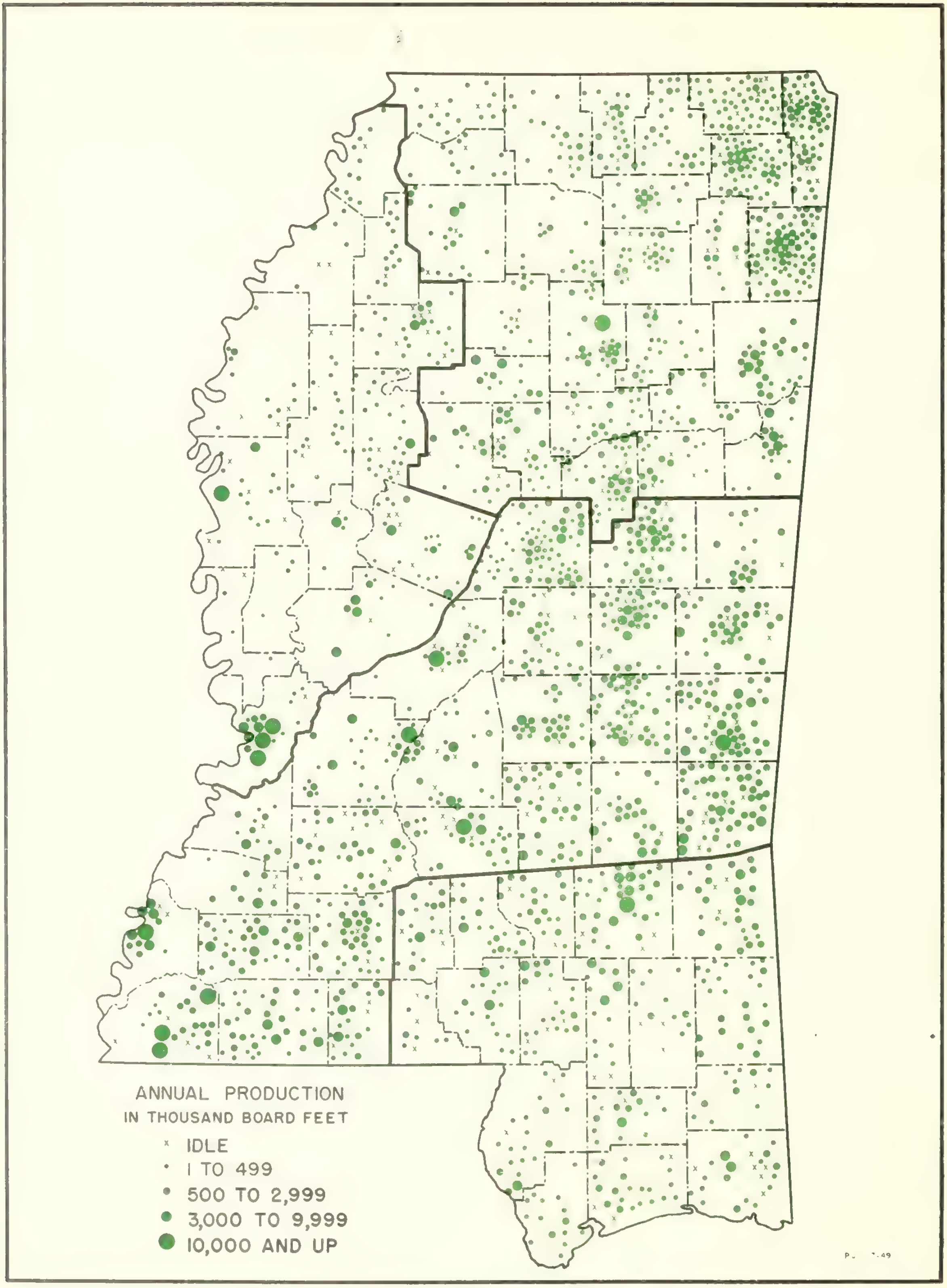

Figure 6.--Location of sawmills, 1946. (Size of dot indicates mill output in 1946. See figure 1 for names of counties.)

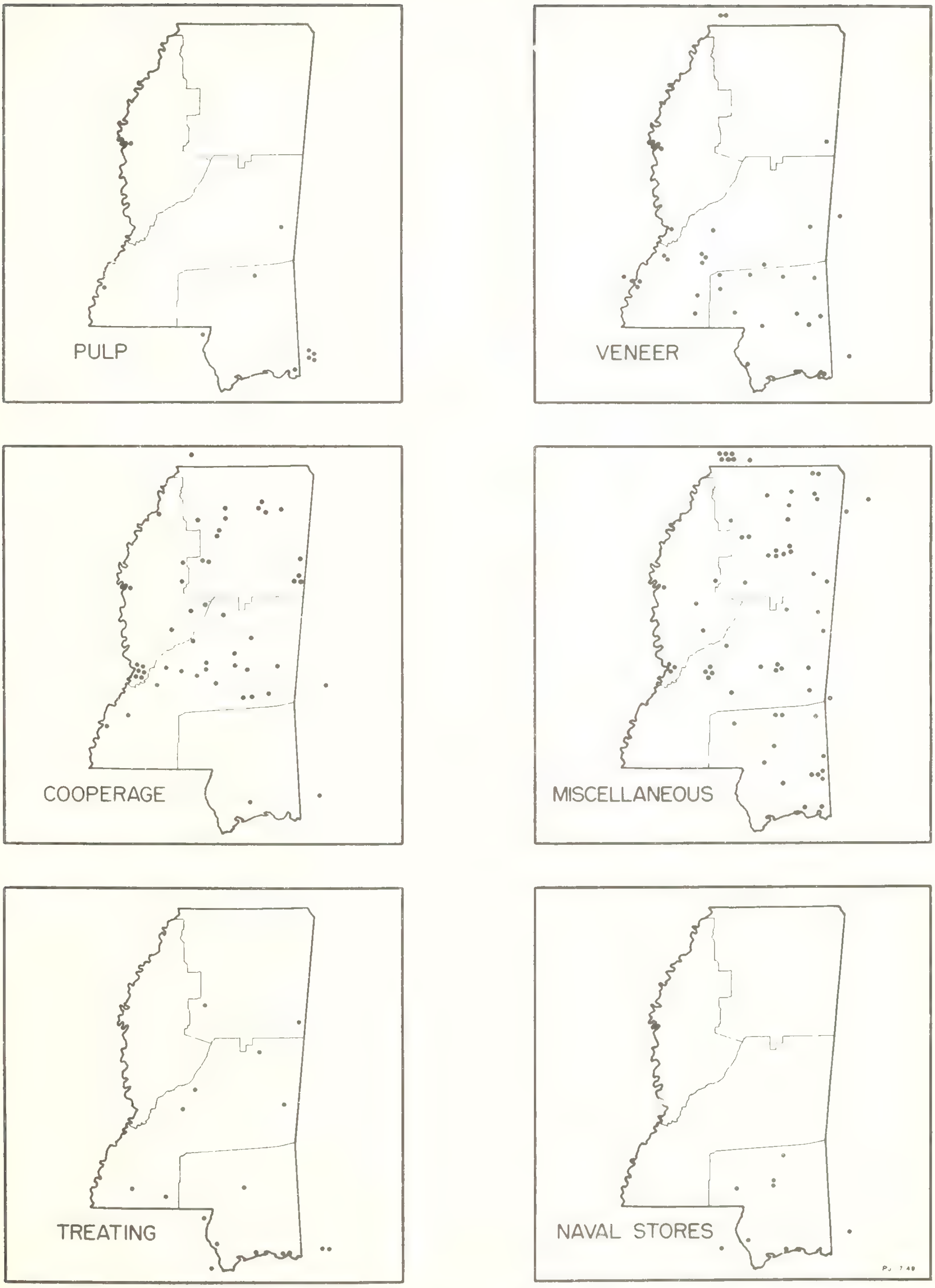

Figure 7.--Location of plants (other than sawmills) that process raw forest products, 1946.

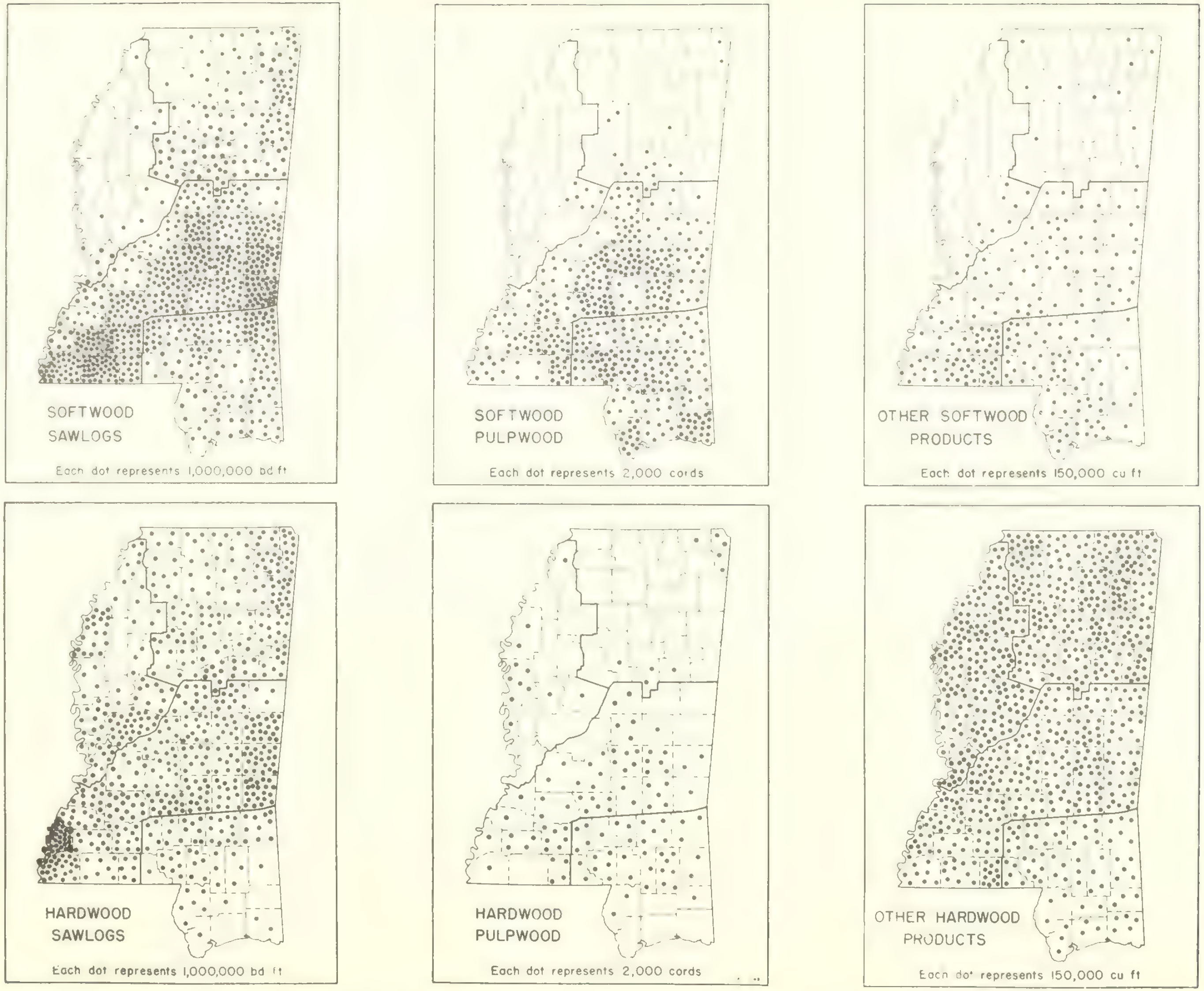
SOFTWOOD SAWLOGS
Each dot represents 1,000,000 bd ft
SOFTWOOD PULPWOOD
Each dot represents 2,000 cords
OTHER SOFTWOOD PRODUCTS
Each dot represents 150,000 cu ft
HARDWOOD SAWLOGS
Each dot represents 1,000,000 bd ft
HARDWOOD PULPWOOD
Each dot represents 2,000 cords
OTHER HARDWOOD PRODUCTS
Each dot represents 150,000 cu ft

Figure 8.--Cutting of logs and bolts by county, 1946. (A dot represents about the same amount of wood in all six maps.)

pulp mill, also at Natchez, was under construction in 1949. Almost all of the 27 veneer plants are in the southern half of the State. The 48 cooperage plants are distributed pretty widely, except that only 1 plant is in south Mississippi. A dozen creosoting plants and 56 miscellaneous plants, most of which turn out handle stock, are scattered widely about the State. The longleaf-slash pine belt of south Mississippi has 6 wood naval stores plants.

Despite the uneven distribution of some types of plants, the total of nonlumber plants is generally well distributed in the State. There are 38 nonlumber plants in the north, 54 in the central region, 39 in the south, and 23 in the Delta.

## Location of Timber-Cutting Operations

Cutting of timber products by county in 1946 is shown in figure 8. Softwood sawlogs come mostly from central Mississippi, not so much from the north and south. All other softwood logs and bolts are harvested almost entirely in the central and south regions. The cut of hardwood sawlogs is spread among the counties of the State more evenly than softwood sawlogs, although it is light in much of the Delta and south regions. The cut of other unprocessed hardwood products is also spread more evenly than other unprocessed softwood products.

The central region is easily the heaviest timber-cutting region of the State (figure 9). This region, with 36 percent of the forest land, produces 59 percent of the softwood logs and bolts and 43 percent of the hardwood logs and bolts. The south region turns out 20 percent of the total raw products; the north, 19 percent; the Delta, 10 percent.

The dominance of central Mississippi as a source of logs and bolts is emphasized in figure 10. More than half the sawlogs, pulpwood, and hewn ties, half the veneer logs, and nearly 40 percent of the cooperage bolts and all other logs and bolts come from this region.

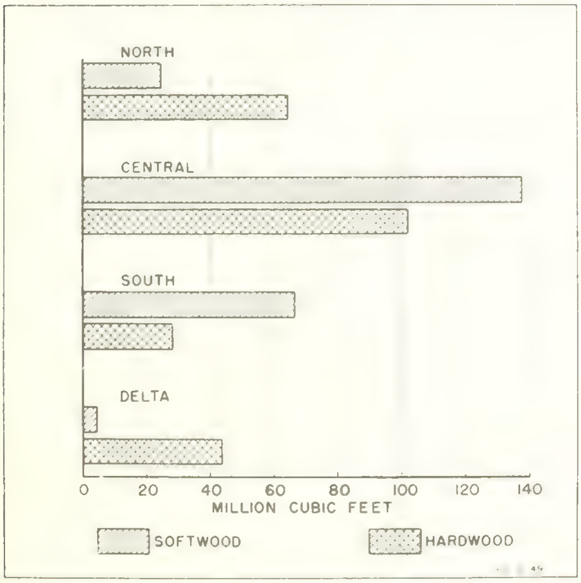

Figure 9.--Total output of all round or split timber products by species group and Survey region, 1946.

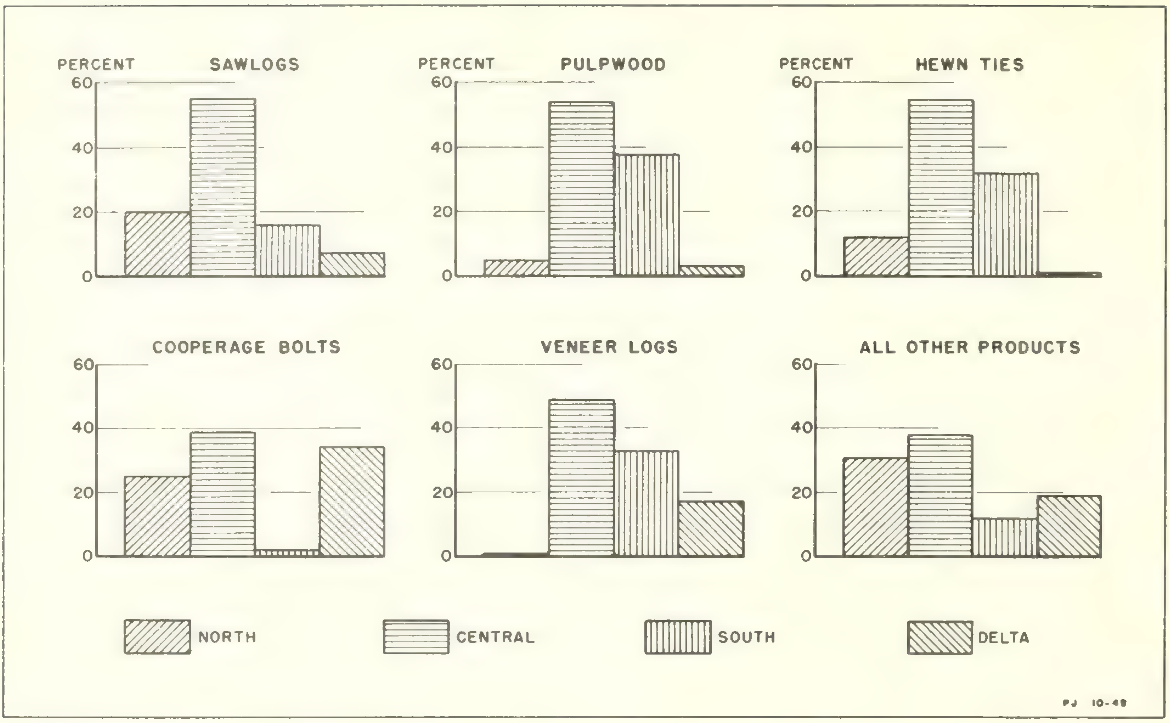

Figure 10.--Cut of major raw timber products by Survey region, 1946.

## Movement of Timber Products to Plants

### Length of haul

With the notable exception of pulp mills, most Mississippi plants do not reach out many miles for timber. The average veneer plant, which has a wider drawing territory than most plants using logs and bolts, gets 44 percent of its timber in the same county in which the plant is located. Plants manufacturing miscellaneous wood products get 56 percent of their timber in their home counties, and cooperage plants get 61 percent. Sawmill procurement is even more local--sawmills get 74 percent of their timber without crossing a county line.

These averages, of course, obscure large variations among individual plants. The larger the plant and the more specialized its wood requirements, the larger its drawing territory is likely to be. The variation among sawmills is particularly pronounced. Most small sawmills are highly mobile and take advantage of the economies of transporting lumber rather than logs. Large mills, in contrast, are stationary, and as adjacent stands of timber are cut out, must reach ever farther for new supplies of timber.

These facts explain to a large extent why sawmills in the Delta, where the average mill is large, get 44 percent of their sawlogs in their home counties; while mills in the north, south, and central regions, where most mills are small, get 76 to 80 percent of their sawlogs in the counties where the mills are located.

Pulp mills usually draw timber from a wide territory. In Mississippi, they obtain 45 percent of their wood from beyond a radius of 50 miles.

| Radius of pulpwood drawing territory Miles | Volume of pulpwood receipts Percent |
|---|---|
| 0 - 50 | 55 |
| 51 - 100 | 42 |
| 101 - 150 | 3 |
| 151 - 200 | Negligible |
| Total | 100 |

Hewn ties and poles and piling do not travel far to concentration yards. Specific data on length of haul are lacking, but the great number of concentration points insures that the bulk of the volume of these products is obtained within a few miles. Subsequent movement, from concentration yard to treating plant, may be for a distance of hundreds of miles.

The remaining unprocessed wood products--fuel wood, fence posts, and miscellaneous domestic items--are as local as woodchucks. They are usually cut in the backyard and used on the same properties.

Wood exports and imports

Logs and bolts of most products do not move widely in interstate commerce. In the 1946 traffic in sawlogs, veneer logs, cooperage bolts, and miscellaneous log products, Mississippi exported 28.6 million board feet (International 1/4-inch rule) to neighboring states, chiefly to Tennessee. It imported 42.1 million board feet, chiefly from Louisiana. The net import of sawlogs was 15.6 million board feet; and of veneer logs, 0.8 million feet. In cooperage bolts, there was a net export of 0.7 million feet; and in miscellaneous log products, a net export of 2.2 million.

Pulpwood is another matter. In 1946, 702,700 standard cords of pulpwood were exported from the State, but imports amounted to only 42,100 cords. The net export of 660,600 cords was substantially more wood than was used by all the pulp mills located in the State. This is 10 percent of the State's total output of all logs and bolts and makes Mississippi an important exporter of unprocessed wood.

## How Lumber Production Varies by Size of Sawmill

More than half of Mississippi's lumber output comes from small and medium-size mills which manufacture less than 3 million board feet annually (table 5, page 29). Only four-tenths of the State's output of lumber is from mills sawing 3 million or more board feet a year.

Most of the mills classed medium-size in this report are portable mills which differ from the small mills only in that their production is more sustained. They would be considered quite small alongside of the mills which turn out many millions of board feet annually.

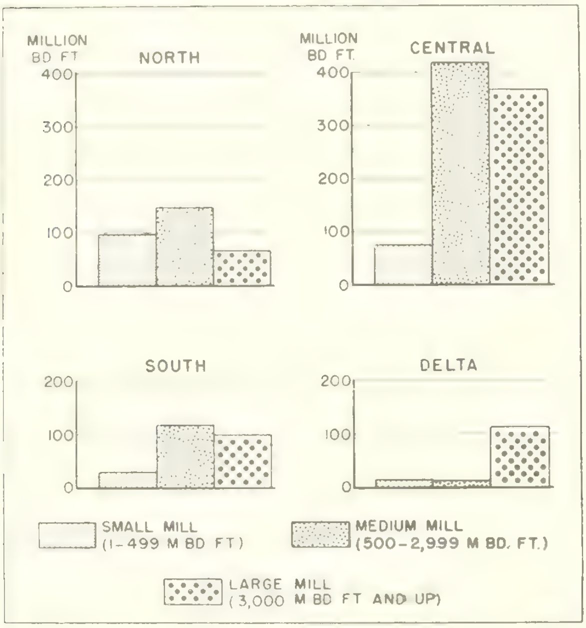

Figure 11.--Lumber production by size of sawmill in the four regions of Mississippi, 1946. (Source: U. S. Bureau of the Census.)

In north Mississippi, where lumber manufacture is concentrated most heavily in small mills, about 80 percent of the output is from mills sawing less than 3 million feet annually (figure 11). In both the central and south regions, some 60 percent of the output is from the small and medium-size mills, but only one-tenth of the total is from mills sawing less than 500,000 feet. Only the Delta manufactures most of its lumber at large mills.

## Effect of Cutting on Stands

### Degree of utilization in logging

When total growing-stock volumes[3] are compared with the cubic volumes of derived logs and bolts, wide differences in the degree of utilization for different products are discovered (figure 12).

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[3] Total growing-stock volume, as measured by the Southern Forest Survey, is the cubic volume of sound, usable wood in sawlog portions of sawlog trees, and in the upper stems of softwood sawlog trees and entire stems of cordwood trees to a minimum top diameter of 4 inches inside bark. Sawlog trees are live, merchantable softwoods 9.0 inches or larger in d.b.h., and hardwoods 11.0 inches or larger in d.b.h. Cordwood trees are well-formed trees smaller than sawlog trees but at least 5.0 inches in d.b.h.

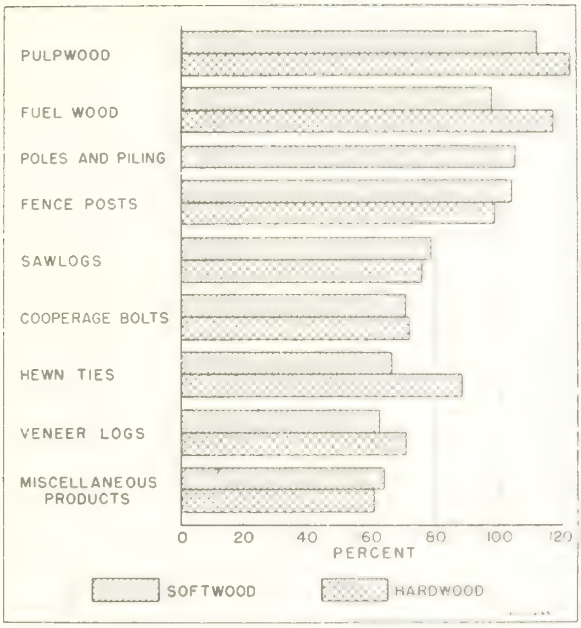

Figure 12.--Net cubic volume in logs and bolts utilized as a percentage of the total growing-stock volume of the trees from which they were cut, 1946.

The most striking example of large use of the cubic volume of trees harvested is pulpwood, where substantially more volume is cut and utilized than is measured in the growing stock by the standards of the Forest Survey. There are several reasons for this. Pulpwood bolts are frequently cut beyond a 4-inch minimum tree top diameter in softwoods, and beyond the top sawlog in hardwood sawlog trees; trees cut for pulpwood are sometimes below the Survey's definitions of a cordwood tree; and very slight losses occur from logging damage, felling breakage, and the abandonment of logs in the woods.

Although not as striking as pulpwood in this respect, other products which are utilized in the round or split form--fuel wood, poles and piling, and fence posts --usually contain more cubic volume than is measured by the Forest Survey in the growing stock from which they are logged.

Logging for products which are not utilized in the round or split form--sawlogs, veneer logs, cooperage bolts, hewn ties, and miscellaneous log products--leaves a considerable portion of the tree in the woods. This is true both for hardwood and softwood species.

Species used for different products

As a result of the combined action of the many types of forest industries, the 1946 drain[4] on growing stock in Mississippi was 554 million cubic feet. Nearly half of this drain on the forest occurred in pine species, 20 percent in oaks, 18 percent in gums, and the rest in a great variety of species.

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[4] Drain is the net volume removed from the timber growing stock through cutting of timber commodities and attendant logging waste, and through land clearing.

Here is a summary of the drain on principal species:

| Species | Growing-stock drain |
|---|---|
| | Million cu. ft. |
| Pines | 267.5 |
| Other softwood | 2.1 |
| Gums | 99.3 |
| Other soft-textured hardwood | 34.6 |
| Oaks | 113.2 |
| Hickory | 8.4 |
| Other firm-textured hardwood | 28.5 |
| Total | 553.6 |

The intensity of use is reflected not so much in the total volume of drain as in the proportion of inventory drained annually. By this latter standard, the picture of use is somewhat different. Pines are used most intensively, followed by gums, other soft-textured hardwoods, and oaks. Generally, the low-value species such as hickory and beech are little used.

| Species | Proportion of inventory taken in 1946 drain |
|---|---|
| | Percent |
| Pines | 9 |
| Gums | 8 |
| Other soft-textured hardwood | 7 |
| Oaks | 7 |
| Hickory | 3 |
| Other firm-textured hardwood | 5 |
| All species | 7 |

The lumber industry accounts for the chief drain on most species, particularly in those species where the intensity of use is high (figure 13). In fact, it may be concluded that if a species is in high demand for sawlogs, the portion of total growing-stock inventory removed annually by logging is high. The converse of this statement is also usually true. If a species is not much in demand for sawlogs, as in the case of hickory and miscellaneous hardwoods, only a small portion of total growing-stock inventory is removed annually.

### Size, quality, and proportion of volume cut

A detailed report on cutting in Mississippi for six major timber products--sawlogs, pulpwood, fuel wood, hewn ties, cooperage bolts,

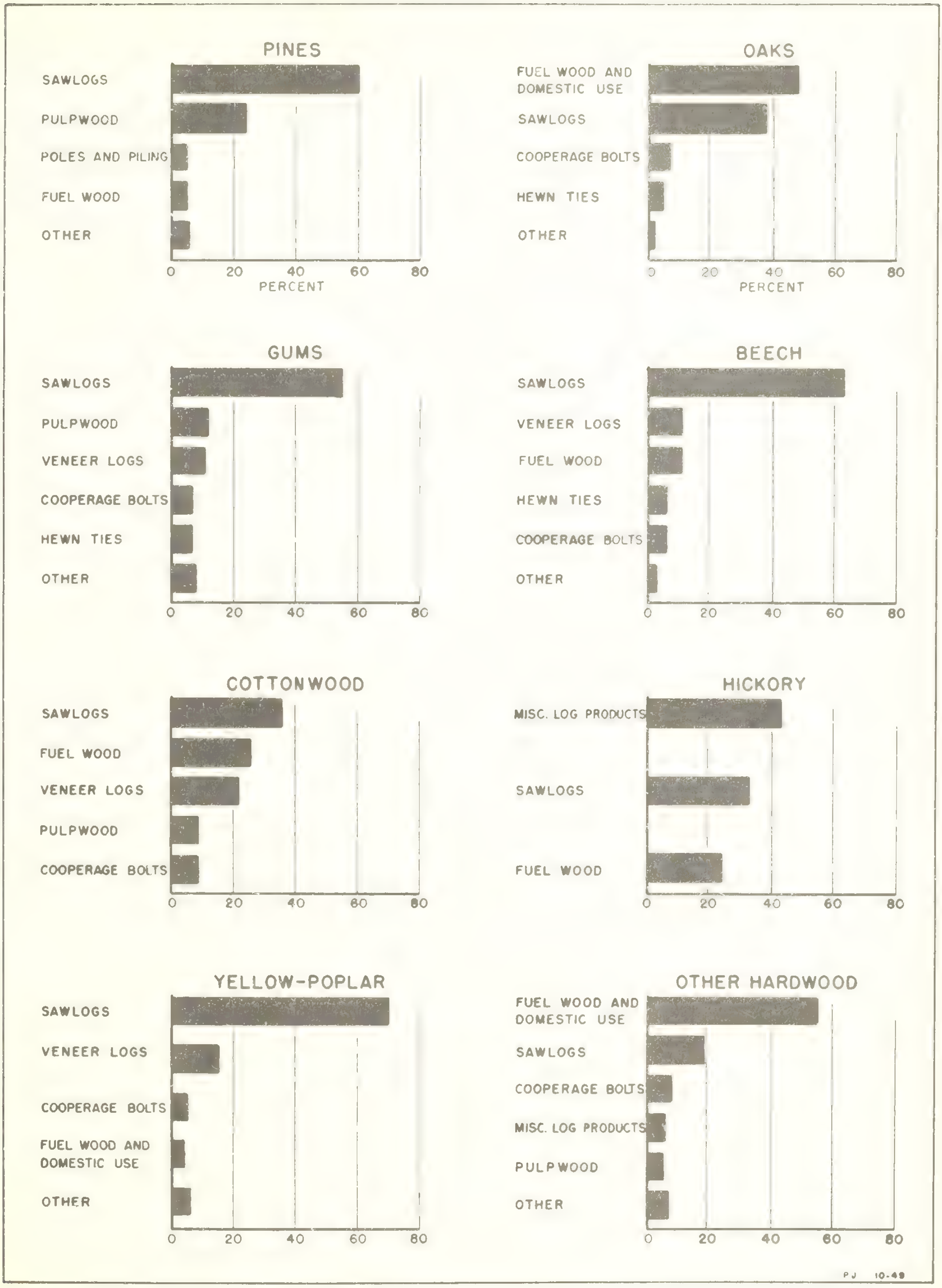

Figure 13.--Drain on major species for different timber products, 1946.

and veneer logs--was published recently.[5] Only a few of the highlights need to be summarized here.

The average sawlog cutting in pine stands takes nearly all trees over 12 inches d.b.h. and almost three-fourths of the volume in 10- and 12-inch trees. Pulpwood cutting takes an even heavier toll--three-fourths of the volume in 6- and 8-inch pine trees is removed in the average operation. Larger trees are cut less heavily for pulpwood because they are hard to handle and owners want to save these trees for sawlog cuts. Cutting of pine for hewn ties and fuel wood does not appear to be as heavy as cutting for sawlogs and pulpwood.

Hardwood cutting is more selective than pine cutting in regard to the proportion of stand volume removed. This holds for all products except fuel wood, which takes a greater proportion of small trees in hardwood than in pine.

However, the picture for hardwood logging is less favorable when log grade[6] and species selection are considered. The typical hardwood operator cutting sawlog-size trees for any product takes all trees with grade 1 logs and more than two-thirds of the trees with grade 2 logs. Moreover, cutting is concentrated among the more valuable species. Thus, the merchantable hardwood trees left standing are chiefly low-value species of small size and poor quality.

Large sawmills versus small sawmills

It was pointed out earlier that six-tenths of the State's output of lumber is from mills producing less than 3 million board feet annually. Because they account for so much of the lumber manufactured, the small and medium-size mills have a dominant influence on timber management.

These mills have aided greatly in the maintenance of lumber output in recent decades during which the size of the average tree has diminished and saw-timber stands have become smaller and more scattered. Their mobility, low costs of operation, and ability to handle small timber economically, permit frequent changes of location for a small volume of sawlogs at each setting.

The fact that almost any stand of saw timber is within reach of a portable mill is not an unmixed blessing to timber management. In tree sizes below 20 inches d.b.h., both pine and hardwood stands are cut more heavily for small sawmills than for large sawmills. In bigger trees, the severity of cut is about the same. Small mills take virtually all pine sawlogs, regardless of grade. Logging for large mills leaves some pine sawlog growing stock, chiefly in the lower grades. In hardwood stands, the typical logging operation removes all trees with grade 1 logs. However, cutting for large mills leaves a considerably larger proportion of trees with grade 2 and grade 3 logs than does cutting for small mills.

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[5] James, Lee M., and Hoffman, William P. Mississippi timber stands before and after cutting. South. Forest Expt. Sta. Forest Survey Release 60, 19 pp., illus. 1949.

[6] Log grades recognized are those described in "Interim sawlog grades for southern hardwoods." Revised. South. Forest Expt. Sta., 9 pp. 1948.

## Changes in the forest resource

What changes in the forest resource of Mississippi have accompanied the industrial activity of recent years?[7]

Sawlog growing stock on Mississippi's 16.5 million acres of commercial forest amounts to 29-1/3 billion board feet, an average of 1,776 board feet per acre of forest land. This is one-fourth less sawlog timber than there was 14 years ago (figure 14). North Mississippi, where the timber was already heavily depleted at the time of the first Survey, has had the heaviest loss in sawlog growing stock--41 percent. The present sawlog volume in this region now averages 1,060 board feet per acre. In central Mississippi, sawlog volume has gone down 24 percent. In the Delta, it has dropped 29 percent. Only in south Mississippi has there been an increase in sawlog volume--3 percent.

Total growing stock amounts to 7.7 billion cubic feet, roughly 7 cords per acre of forest land. With one-third of the total growing stock in trees below sawlog size--where growth is most vigorous and drain least severe--the declines in total growing-stock volume have been less sharp than for sawlog growing stock. In some regions volume increases have occurred. For the State as a whole, the decline in softwood growing stock has been 20 percent; hardwood volume has not changed (figure 14).

A marked shift from pine to hardwood is occurring in the upland forest. Pine is usually preferred to hardwood in most upland areas, but nearly two-thirds of the growing-stock growth is in hardwood. These contrasts between species in logging and growth are emphasized by forest type changes between the two Forest Surveys. Pine forests (in which pines make up at least a fourth of the dominant trees) have been replaced by hardwood forests on 2.2 million acres. The area of loblolly-shortleaf pine forests has shrunk by 21 percent; longleaf-slash pine, 29 percent. Upland hardwood types, however, have more than doubled in area.

The result of the creaming of stands in Mississippi logging operations is that two-thirds of the hardwood saw timber is in grade 3 logs--small logs and logs which will yield less than one-third of their volume in higher grades of lumber, and logs whose defects limit their usefulness to ties and timbers. As for softwood, 62 percent of the sawlog volume is in grade 3 trees having less than 12 feet of clear bole. In addition to

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[7] For detailed data on the forest resource of Mississippi, see "Forest statistics for Mississippi." South. Forest Expt. Sta. Forest Survey Release 59, 67 pp., illus. 1949.

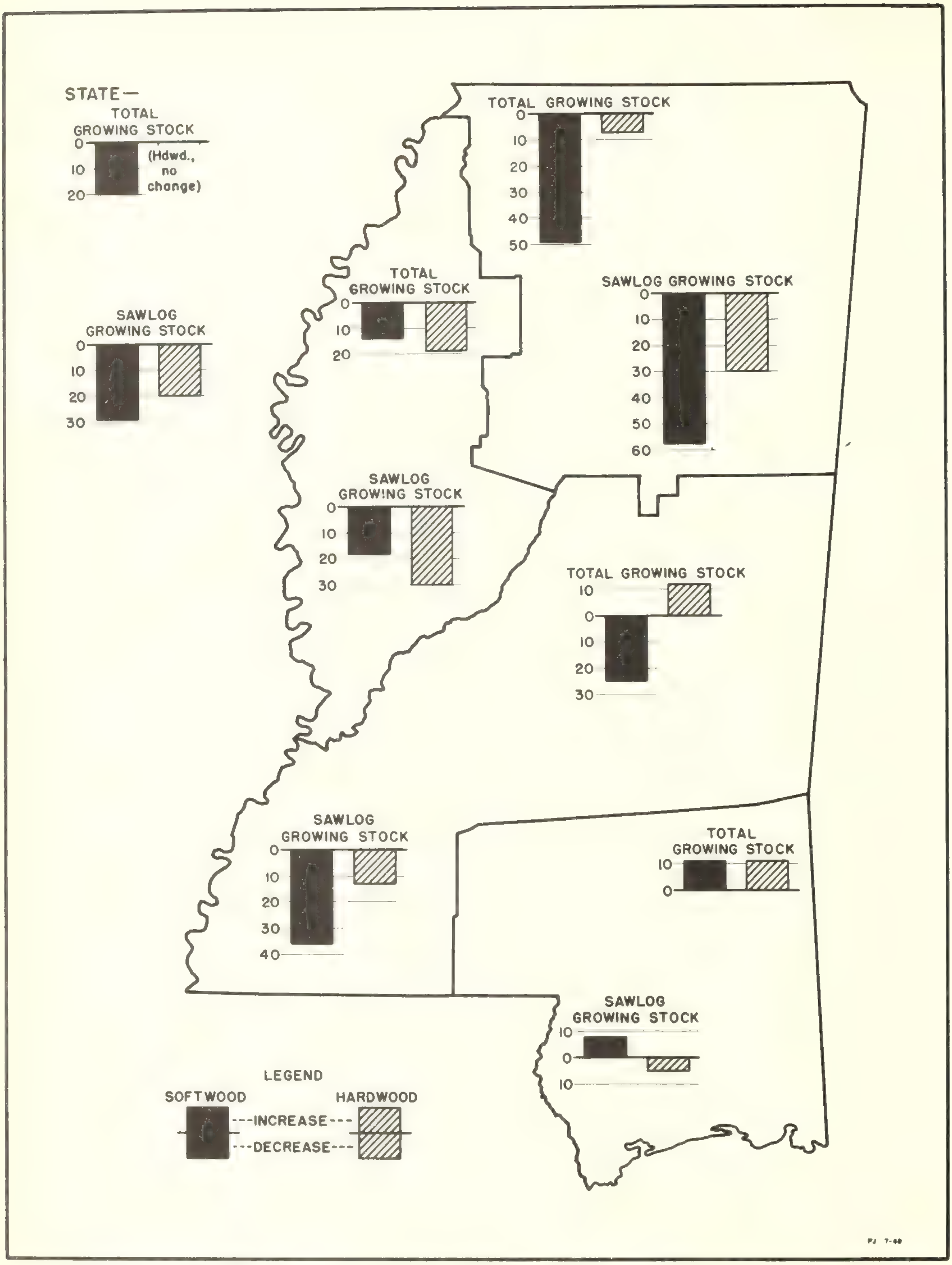

Figure 14.--Percentage change in sawlog and total growing-stock volume between 1932-35 and 1946-48.

the downgrading of growing stock, there has been an increase of nearly one-fifth in the volume of cull trees[8] since the first Survey. Cull trees now take up a fourth of the entire growing space.

Mississippi's timber is also smaller than it used to be. Among softwoods, 6-inch trees (from 5.0 to 6.9 inches d.b.h.) increased in numbers since the first Survey and 8-inch trees about held their own; but the number of trees in all larger size classes declined. In 26-inch and larger trees, the decline amounted to two-thirds. Among hardwoods the story in general is the same, except that the small trees have increased in numbers up through the 14-inch class, and the declines in larger tree sizes have been less severe than for softwoods. Now nearly a third of Mississippi's growing stock is in trees of less than sawlog size.

## The Outlook for Timber Production

Can Mississippi's forests continue to support, at recent levels of output, the industries now drawing on them? The volume of timber harvested has held about the same in recent decades only because industry adjusted itself to the use of smaller trees, poorer quality trees, and, frequently, less valued species than it used to cut. Further adjustments toward the use of poorer quality timber may be forced on the forest industry, but there are obvious limits to this method of expanding the utilizable forest resource.

Improved forest management is the real key to the problem of sustaining timber output. Good forest management, if applied widely and immediately to the forests of the State, might not sustain both the quantity and quality of production in the short run, yet would surely increase them in the long run.

But what will happen if there is no change in the rate of improvement in forest management? For the purpose of this discussion, it will also be supposed that the forest industry needs to use timber of the same sizes and quality that it uses now (except where the contrary is specifically noted) and that there will be no significant change in landownership.

### Lumber

Between the Forest Surveys of 1932-35 and 1946-48, softwood lumber manufacture averaged 925 million board feet annually, and hardwood 418 million feet. During the same period of 14 years, softwood and hardwood sawlog volume dropped heavily and tree size diminished.

Continuation of such heavy declines in saw-timber trees can only lead to curtailed lumber output, both in softwoods and hardwoods.

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[8] Live trees 5.0 inches or larger in d.b.h., which because of decay or sound defect fail to meet the specifications for cordwood or sawlog trees.

This conclusion is supported by two factors: (1) In pine, nearly 30 percent of the volume cut for sawlogs is now in trees below 14 inches d.b.h., the same sizes in which pulpwood cutting is concentrated. This means that competition from the pulp industry for pine timber will be felt by lumbermen more strongly than in years past. (2) In hardwood, the better quality trees and more valuable species are being depleted at a faster rate than the 20-percent decline in sawlog volume indicates.

## Pulpwood

Two factors--the prospect of reduced timber inventory because of the great expansion which has already occurred in pulpwood production, and increasing competition for small trees with the lumber industry --may provide an effective brake to the trend of rapid increase in pulpwood cutting. The generally well-managed pulp company lands are not extensive enough to produce more than part of recent pulpwood requirements.

The cutting of pulpwood, which occurs principally in trees 6 to 12 inches in d.b.h., has not been enough to change the total softwood volume in these tree sizes between the Forest Surveys of 1932-35 and 1946-48. However, current pulpwood production is twice as much as it averaged during the 14 years between the two Surveys. Even if softwood pulpwood output should remain stationary at the 1948 level of 1.2 million cords (assuming for a moment that all other factors bearing on the timber situation remain unchanged as compared to the years between the two Surveys), the softwood inventory in 6- to 12-inch trees will go down about one-fifth in another 14 years. It must be emphasized that this estimate is not a prediction, since it is based on the unlikely assumption of no changes in the quality of timber management, the volume of cutting, or the standards of utilization.

Perhaps more important to the future of pulpwood production in Mississippi is the fact that sawlog cutting for lumber has been moving steadily into the smaller tree sizes which are used for pulpwood. At present, nearly 30 percent of the pine sawlog cut is in trees 6 to 12 inches in d.b.h. If the trend of softwood saw-timber inventory continues downward (down 29 percent from 1932-35 to 1946-48), an even larger proportion of sawlogs will come from small tree sizes, and competition between the pulp and lumber industries will become much sharper.

## Veneer

Four-fifths of all veneer production is from sweetgum, black and tupelo gums, cottonwood, and yellow-poplar; and roughly nine-tenths of all production is from trees 20 inches d.b.h. and larger. The resource in these species and sizes amounts to 1,290 million board feet. Grade limitations cut down the resource which would be usable, by current standards, to no more than 1,000 million feet. To this inventory, about 50 million feet a year are added in growth.

These statistics might indicate a resource which would be adequate to maintain the present level of drain for veneer (128 million board feet in 1946) for a few years. But other industries, particularly the lumber industry, compete for the same tree species, sizes, and grades. The effect of this competition is seen in the Forest Survey record of a drop of 21 percent in the number of 20-inch hardwood trees between 1932-35 and 1946-48 and bigger declines in larger sizes up to 41 percent in 26-inch and larger trees. When it is realized also that declines have been even greater in the better tree grades which are used for veneer stock, the rapidity of depletion in the resource used for veneer becomes apparent.

## Cooperage

The prospect for slack cooperage is favorable, but whether the long-term upward trend in production will continue is another question. Hardwood inventory and growth might be ample to support further expansion of slack cooperage manufacture, but cooperage producers will have to outbid lumbermen and other hardwood users for raw material. Slack cooperage users are in direct competition with other hardwood timber users for much of their timber, both in regard to tree size and tree quality.

The outlook for tight cooperage is less favorable. Some 2,000 million board feet of sawlog volume occurs in species of the white oak group in trees 14 inches d.b.h. and larger, but no more than 500 million feet is in species and quality acceptable for tight cooperage. In 1946, drain of all oak (mostly white oak) for tight cooperage was 50 million board feet, or about 10 percent of the currently usable resource. Since other products also make inroads on the usable resource, there is a strong indication of short supply.

## Naval stores

The tremendous cut-back which occurred in the gum naval stores industry of Mississippi with the liquidation of virgin longleaf and slash pine in the 1920's may prove to be permanent. Despite technological improvements in naval stores operations in recent years, much longleaf and slash pine is not chipped because the stands are not considered economical to operate under present conditions.

Since nearly all of Mississippi's naval stores yield is from the stumps of old-growth longleaf and slash pines, it is difficult to see how wood naval stores can be other than a diminishing industry. The resource is estimated to be roughly 6 million tons, which is a ten or fifteen years' supply at the present rate of use.

## Other products

Producers of minor products with exacting timber requirements may have some difficulty in obtaining adequate timber supplies. Their ability to get needed timber may depend more on new growth in the particular species and quality required than on their ability to compete with other users of timber.

Fuel wood and minor timber items with unexacting species and quality requirements do not face a prospect of further decline on the basis of timber supply. The forest resource is relatively plentiful in those species, sizes, and grades not in demand for major products.

Viewing the situation generally for all products, the outlook for sustained output is uncertain under present standards of forest management. Aside from possible increase of the utilizable forest resource through changed standards of utilization, an immediate and marked improvement in forest management will be necessary if the forest industry is to have the raw material needed to sustain production at recent levels.

# APPENDIX TABLES

Table 4.--Total log and bolt production by Survey region, 1946

| Species group and product | State | North | Central | South | Delta |
|---|---|---|---|---|---|
| | - - - - - - | Thousand | cubic feet | - - - - - - | - |
| Softwood | | | | | |
| Sawlogs | 127,284.9 | 20,450.6 | 79,089.3 | 25,405.0 | 2,340.0 |
| Fuel wood[1] | 11,110.6 | 1,197.2 | 7,409.5 | 1,408.9 | 1,095.0 |
| Pulpwood | 71,825.4 | 2,681.0 | 39,208.0 | 28,964.7 | 971.7 |
| Poles and piling | 14,317.3 | 140.5 | 7,253.7 | 6,923.1 | ... |
| Veneer logs | 1,427.7 | 4.3 | 625.8 | 730.0 | 67.6 |
| Cooperage bolts | 351.0 | ... | .2 | 275.2 | 75.6 |
| Hewn ties | 7,526.4 | 525.7 | 4,193.7 | 2,773.8 | 33.2 |
| Fence posts | 207.4 | ... | 81.7 | 112.3 | 13.4 |
| Other | 189.1 | .1 | 105.9 | 74.3 | 8.8 |
| Total | 234,239.8 | 24,999.4 | 137,967.8 | 66,667.3 | 4,605.3 |
| Hardwood | | | | | |
| Sawlogs | 90,631.6 | 22,549.8 | 45,212.3 | 9,186.9 | 13,682.6 |
| Fuel wood[1] | 81,650.5 | 31,222.1 | 25,659.5 | 4,891.0 | 19,877.9 |
| Pulpwood | 18,569.6 | 1,491.0 | 9,242.5 | 5,751.2 | 2,084.9 |
| Poles and piling | ... | ... | ... | ... | ... |
| Veneer logs | 11,801.4 | 78.2 | 5,919.7 | 3,644.2 | 2,159.3 |
| Cooperage bolts | 13,351.7 | 3,429.7 | 5,272.2 | 66.7 | 4,583.1 |
| Hewn ties | 13,027.6 | 1,902.9 | 7,148.0 | 3,899.5 | 77.2 |
| Fence posts | 5,192.6 | 1,998.0 | 1,959.2 | 589.7 | 645.7 |
| Other | 5,020.3 | 2,143.3 | 1,623.6 | 441.1 | 812.3 |
| Total | 239,245.3 | 64,815.0 | 102,037.0 | 28,470.3 | 43,923.0 |
| All species and products | 473,485.1 | 89,814.4 | 240,004.8 | 95,137.6 | 48,528.3 |

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[1] An additional volume of fuel wood not shown in table--62,605,000 cubic feet--is taken from dead timber, cull timber, and fence rows. Fuel from wood slabs and other mill waste is not included.

Table 5.--Lumber production and number of sawmills by size of sawmill, 1946

| Size of sawmill 1/ (M bd.ft.) | Mills | Lumber production | | |
|---|---|---|---|---|
| | | Softwood | Hardwood | Total |
| | No. | - - - - Million bd. ft. - - - - | | |
| | | | STATE | |
| 1 - 499 | 1,248 | 124.2 | 94.9 | 219.1 |
| 500 - 2999 | 631 | 442.6 | 252.9 | 695.5 |
| 3000 and up | 102 | 289.1 | 355.2 | 644.3 |
| Total | 1,981 | 855.9 | 703.0 | 1,558.9 |
| | | | NORTH | |
| 1 - 499 | 516 | 47.0 | 51.5 | 98.5 |
| 500 - 2999 | 178 | 71.2 | 74.6 | 145.8 |
| 3000 and up | 12 | 14.9 | 50.1 | 65.0 |
| Total | 706 | 133.1 | 176.2 | 309.3 |
| | | | CENTRAL | |
| 1 - 499 | 380 | 49.8 | 26.4 | 76.2 |
| 500 - 2999 | 339 | 277.6 | 141.1 | 418.7 |
| 3000 and up | 53 | 203.1 | 161.6 | 364.7 |
| Total | 772 | 530.5 | 329.1 | 859.6 |
| | | | SOUTH | |
| 1 - 499 | 195 | 22.7 | 7.2 | 29.9 |
| 500 - 2999 | 100 | 88.4 | 29.9 | 118.3 |
| 3000 and up | 20 | 61.0 | 39.6 | 100.6 |
| Total | 315 | 172.1 | 76.7 | 248.8 |
| | | | DELTA | |
| 1 - 499 | 157 | 4.7 | 9.8 | 14.5 |
| 500 - 2999 | 14 | 5.4 | 7.3 | 12.7 |
| 3000 and up | 17 | 10.1 | 103.9 | 114.0 |
| Total | 188 | 20.2 | 121.0 | 141.2 |

1/ As measured by production of lumber in 1946.

Table 6.--Sawlog production by county, 1946

| County | All species | Softwood | Hardwood |
|---|---|---|---|
| | Million bd. ft. (International 1/4-inch log rule) | | |
| Adams | 46.2 | 8.1 | 38.1 |
| Alcorn | 11.0 | 4.4 | 6.6 |
| Amite | 49.9 | 42.8 | 7.1 |
| Attala | 27.1 | 15.7 | 11.4 |
| Benton | 6.5 | 2.4 | 4.1 |
| Bolivar | 20.0 | .2 | 19.8 |
| Calhoun | 17.7 | 8.2 | 9.5 |
| Carroll | 13.5 | 8.6 | 4.9 |
| Chickasaw | 9.0 | 4.5 | 4.5 |
| Choctaw | 16.0 | 8.4 | 7.6 |
| Claiborne | 19.4 | 7.9 | 11.5 |
| Clarke | 58.7 | 37.4 | 21.3 |
| Clay | 5.6 | 2.0 | 3.6 |
| Coahoma | 2.5 | .1 | 2.4 |
| Copiah | 42.2 | 27.4 | 14.8 |
| Covington | 21.4 | 14.2 | 7.2 |
| De Soto | 4.5 | (1/) | 4.5 |
| Forrest | 9.1 | 6.3 | 2.8 |
| Franklin | 41.7 | 32.1 | 9.6 |
| George | 8.6 | 8.4 | .2 |
| Greene | 18.0 | 16.8 | 1.2 |
| Grenada | 14.4 | 5.1 | 9.3 |
| Hancock | 4.8 | 3.7 | 1.1 |
| Harrison | 5.7 | 5.7 | (1/) |
| Hinds | 20.2 | 10.3 | 9.9 |
| Holmes | 11.8 | 1.8 | 10.0 |
| Humphreys | 2.4 | .1 | 2.3 |
| Issaquena | 4.9 | (1/) | 4.9 |
| Itawamba | 31.1 | 15.1 | 16.0 |
| Jackson | 12.7 | 10.8 | 1.9 |
| Jasper | 35.4 | 23.4 | 12.0 |
| Jefferson | 18.7 | 9.8 | 8.9 |
| Jefferson Davis | 12.3 | 8.1 | 4.2 |
| Jones | 29.7 | 17.3 | 12.4 |
| Kemper | 47.5 | 26.8 | 20.7 |
| Lafayette | 6.1 | 2.6 | 3.5 |
| Lamar | 16.8 | 10.7 | 6.1 |
| Lauderdale | 52.1 | 31.2 | 20.9 |
| Lawrence | 19.1 | 14.3 | 4.8 |
| Leake | 36.4 | 23.6 | 12.8 |
| Lee | 5.2 | 1.5 | 3.7 |
| Leflore | 3.5 | .1 | 3.4 |
| Lincoln | 36.0 | 24.3 | 11.7 |

Table 6.--Sawlog production by county, 1946 (Cont'd.)

| County | All species | Softwood | Hardwood |
|---|---|---|---|
| | Million bd. ft. (International 1/4-inch log rule) | | |
| Lowndes | 16.0 | 7.1 | 8.9 |
| Madison | 24.3 | 12.3 | 12.0 |
| Marion | 12.8 | 6.3 | 6.5 |
| Marshall | 8.8 | 2.7 | 6.1 |
| Monroe | 30.4 | 16.4 | 14.0 |
| Montgomery | 11.3 | 6.2 | 5.1 |
| Neshoba | 26.2 | 15.3 | 10.9 |
| Newton | 32.5 | 22.3 | 10.2 |
| Noxubee | 7.1 | 4.1 | 3.0 |
| Oktibbeha | 13.2 | 6.5 | 6.7 |
| Panola | 7.5 | .8 | 6.7 |
| Pearl River | 12.2 | 6.2 | 6.0 |
| Perry | 5.6 | 2.8 | 2.8 |
| Pike | 19.1 | 13.4 | 5.7 |
| Pontotoc | 7.7 | 4.3 | 3.4 |
| Prentiss | 16.8 | 6.2 | 10.6 |
| Quitman | 2.5 | .4 | 2.1 |
| Rankin | 43.3 | 28.8 | 14.5 |
| Scott | 35.1 | 24.4 | 10.7 |
| Sharkey | 8.2 | .8 | 7.4 |
| Simpson | 34.9 | 19.1 | 15.8 |
| Smith | 36.0 | 21.5 | 14.5 |
| Stone | 8.9 | 8.2 | .7 |
| Sunflower | .4 | .1 | .3 |
| Tallahatchie | 5.5 | 2.5 | 3.0 |
| Tate | 2.4 | .1 | 2.3 |
| Tippah | 9.0 | 4.1 | 4.9 |
| Tishomingo | 20.3 | 8.6 | 11.7 |
| Tunica | 6.2 | .7 | 5.5 |
| Union | 5.2 | 2.2 | 3.0 |
| Walthall | 3.1 | 1.8 | 1.3 |
| Warren | 17.9 | 6.5 | 11.4 |
| Washington | 4.4 | .1 | 4.3 |
| Wayne | 39.5 | 29.2 | 10.3 |
| Webster | 9.9 | 6.1 | 3.8 |
| Wilkinson | 57.7 | 34.6 | 23.1 |
| Winston | 25.6 | 13.9 | 11.7 |
| Yalobusha | 8.8 | 3.2 | 5.6 |
| Yazoo | 29.2 | 2.3 | 26.9 |
| Total | 1,540.9 | 854.3 | 686.6 |

1/ Negligible.

Table 7.--Pulpwood production by county, 1946

| County | All species | Softwood | Hardwood |
|---|---|---|---|
| | Hundred standard cords | | |
| Adams | 53 | 43 | 10 |
| Alcorn | 32 | 3 | 29 |
| Amite | 97 | 90 | 7 |
| Attala | 277 | 228 | 49 |
| Benton | 0 | 0 | 0 |
| Bolivar | 48 | 0 | 48 |
| Calhoun | 6 | 5 | 1 |
| Carroll | 7 | 6 | 1 |
| Chickasaw | 23 | 23 | 0 |
| Choctaw | 152 | 120 | 32 |
| Claiborne | 93 | 74 | 19 |
| Clarke | 188 | 163 | 25 |
| Clay | 5 | 3 | 2 |
| Coahoma | (1/) | 0 | (1/) |
| Copiah | 353 | 288 | 65 |
| Covington | 242 | 173 | 69 |
| De Soto | 0 | 0 | 0 |
| Forrest | 320 | 257 | 63 |
| Franklin | 356 | 285 | 71 |
| George | 182 | 158 | 24 |
| Greene | 227 | 196 | 31 |
| Grenada | 1 | (1/) | 1 |
| Hancock | 276 | 276 | 0 |
| Harrison | 145 | 144 | 1 |
| Hinds | 186 | 150 | 36 |
| Holmes | 162 | 132 | 30 |
| Humphreys | 28 | 0 | 28 |
| Issaquena | 27 | 0 | 27 |
| Itawamba | 0 | 0 | 0 |
| Jackson | 453 | 453 | 0 |
| Jasper | 458 | 365 | 93 |
| Jefferson | 148 | 121 | 27 |
| Jefferson Davis | 152 | 127 | 25 |
| Jones | 343 | 252 | 91 |
| Kemper | 139 | 135 | 4 |
| Lafayette | 0 | 0 | 0 |
| Lamar | 288 | 248 | 40 |
| Lauderdale | 250 | 213 | 37 |
| Lawrence | 361 | 283 | 78 |
| Leake | 362 | 312 | 50 |
| Lee | 0 | 0 | 0 |
| Leflore | 1 | 0 | 1 |

Table 7.--Pulpwood production by county, 1946 (Cont'd.)

| County | All species | Softwood | Hardwood |
|---|---|---|---|
| | - - - - | Hundred standard cords | - - - - - |
| Lincoln | 462 | 332 | 130 |
| Lowndes | 1 | 1 | 0 |
| Madison | 40 | 36 | 4 |
| Marion | 514 | 421 | 93 |
| Marshall | 1 | 1 | (1/) |
| Monroe | 1 | 1 | (1/) |
| Montgomery | 65 | 54 | 11 |
| Neshoba | 115 | 103 | 12 |
| Newton | 483 | 363 | 120 |
| Noxubee | 30 | 25 | 5 |
| Oktibbeha | 63 | 44 | 19 |
| Panola | 2 | (1/) | 2 |
| Pearl River | 243 | 198 | 45 |
| Perry | 462 | 331 | 131 |
| Pike | 357 | 278 | 79 |
| Pontotoc | 0 | 0 | 0 |
| Prentiss | 12 | 2 | 10 |
| Quitman | 3 | 0 | 3 |
| Rankin | 646 | 543 | 103 |
| Scott | 551 | 427 | 124 |
| Sharkey | 5 | 0 | 5 |
| Simpson | 555 | 425 | 130 |
| Smith | 160 | 123 | 37 |
| Stone | 116 | 110 | 6 |
| Sunflower | (1/) | 0 | 1/ |
| Tallahatchie | 0 | 0 | 0 |
| Tate | 0 | 0 | 0 |
| Tippah | 0 | 0 | 0 |
| Tishomingo | 123 | 39 | 84 |
| Tunica | 27 | 0 | 27 |
| Union | (1/) | (1/) | 0 |
| Walthall | 180 | 143 | 37 |
| Warren | 3 | (1/) | 3 |
| Washington | 113 | 0 | 113 |
| Wayne | 251 | 198 | 53 |
| Webster | 29 | 24 | 5 |
| Wilkinson | 207 | 184 | 23 |
| Winston | 71 | 67 | 4 |
| Yalobusha | 49 | 39 | 10 |
| Yazoo | 1 | 1 | (1/) |
| Total | 12,382 | 9,839 | 2,543 |

1/ Negligible.

Table 8.--Production of fuel wood, fence posts, and miscellaneous domestic products from live timber by county, 1946

| County | All species | Softwood | Hardwood |
|---|---|---|---|
| | - - - - - | Hundred standard cords | - - - - - |
| Adams | 105 | 22 | 83 |
| Alcorn | 176 | 6 | 170 |
| Amite | 192 | 41 | 151 |
| Attala | 227 | 48 | 179 |
| Benton | 98 | 3 | 95 |
| Bolivar | 389 | 0 | 389 |
| Calhoun | 193 | 7 | 186 |
| Carroll | 193 | 7 | 186 |
| Chickasaw | 197 | 7 | 190 |
| Choctaw | 126 | 4 | 122 |
| Claiborne | 93 | 18 | 75 |
| Clarke | 178 | 38 | 140 |
| Clay | 126 | 4 | 122 |
| Coahoma | 221 | 0 | 221 |
| Copiah | 246 | 53 | 193 |
| Covington | 71 | 15 | 56 |
| De Soto | 245 | 9 | 236 |
| Forrest | 56 | 13 | 43 |
| Franklin | 110 | 23 | 87 |
| George | 36 | 8 | 28 |
| Greene | 39 | 8 | 31 |
| Grenada | 123 | 4 | 119 |
| Hancock | 29 | 6 | 23 |
| Harrison | 58 | 12 | 46 |
| Hinds | 389 | 84 | 305 |
| Holmes | 298 | 63 | 235 |
| Humphreys | 138 | 0 | 138 |
| Issaquena | 40 | 0 | 40 |
| Itawamba | 185 | 6 | 179 |
| Jackson | 46 | 11 | 35 |
| Jasper | 170 | 36 | 134 |
| Jefferson | 126 | 26 | 100 |
| Jefferson Davis | 67 | 14 | 53 |
| Jones | 108 | 24 | 84 |
| Kemper | 192 | 41 | 151 |
| Lafayette | 168 | 6 | 162 |
| Lamar | 50 | 11 | 39 |
| Lauderdale | 198 | 43 | 155 |
| Lawrence | 60 | 13 | 47 |
| Leake | 213 | 46 | 167 |
| Lee | 276 | 10 | 266 |
| Leflore | 237 | 0 | 237 |

Table 8.--Production of fuel wood, fence posts, and miscellaneous domestic products from live timber by county, 1946 (Cont'd.)

| County | All species | Softwood | Hardwood |
|---|---|---|---|
| | - - - - Hundred standard cords - - - - - | | |
| Lincoln | 186 | 40 | 146 |
| Lowndes | 200 | 7 | 193 |
| Madison | 275 | 60 | 215 |
| Marion | 77 | 16 | 61 |
| Marshall | 211 | 7 | 204 |
| Monroe | 270 | 10 | 260 |
| Montgomery | 124 | 4 | 120 |
| Neshoba | 208 | 45 | 163 |
| Newton | 210 | 45 | 165 |
| Noxubee | 226 | 49 | 177 |
| Oktibbeha | 158 | 5 | 153 |
| Panola | 315 | 11 | 304 |
| Pearl River | 60 | 13 | 47 |
| Perry | 42 | 9 | 33 |
| Pike | 213 | 46 | 167 |
| Pontotoc | 211 | 7 | 204 |
| Prentiss | 191 | 7 | 184 |
| Quitman | 166 | 0 | 166 |
| Rankin | 240 | 51 | 189 |
| Scott | 176 | 37 | 139 |
| Sharkey | 95 | 0 | 95 |
| Simpson | 190 | 40 | 150 |
| Smith | 168 | 35 | 133 |
| Stone | 25 | 5 | 20 |
| Sunflower | 352 | 0 | 352 |
| Tallahatchie | 210 | 0 | 210 |
| Tate | 178 | 6 | 172 |
| Tippah | 181 | 6 | 175 |
| Tishomingo | 153 | 5 | 148 |
| Tunica | 139 | 0 | 139 |
| Union | 170 | 6 | 164 |
| Walthall | 73 | 15 | 58 |
| Warren | 134 | 28 | 106 |
| Washington | 264 | 0 | 264 |
| Wayne | 72 | 16 | 56 |
| Webster | 132 | 5 | 127 |
| Wilkinson | 140 | 29 | 111 |
| Winston | 167 | 35 | 132 |
| Yalobusha | 142 | 5 | 137 |
| Yazoo | 289 | 62 | 227 |
| Total | 13,521 | 1,557 | 11,964 |

Table 9.--Pole and piling production by county, 1946

| County | All species | Softwood | Hardwood |
|---|---|---|---|
| | ------ Thousand pieces ------ | | |
| Adams | 0 | 0 | 0 |
| Alcorn | 1.4 | 1.4 | 0 |
| Amite | 99.4 | 99.4 | 0 |
| Attala | 0 | 0 | 0 |
| Benton | 0 | 0 | 0 |
| Bolivar | 0 | 0 | 0 |
| Calhoun | 0 | 0 | 0 |
| Carroll | .3 | .3 | 0 |
| Chickasaw | 0 | 0 | 0 |
| Choctaw | 0 | 0 | 0 |
| Claiborne | .7 | .7 | 0 |
| Clarke | 4.5 | 4.5 | 0 |
| Clay | .5 | .5 | 0 |
| Coahoma | 0 | 0 | 0 |
| Copiah | 4.0 | 4.0 | 0 |
| Covington | 4.8 | 4.8 | 0 |
| De Soto | 0 | 0 | 0 |
| Forrest | 36.1 | 36.1 | 0 |
| Franklin | 35.4 | 35.4 | 0 |
| George | 11.9 | 11.9 | 0 |
| Greene | 1.3 | 1.3 | 0 |
| Grenada | 2.8 | 2.8 | 0 |
| Hancock | 48.0 | 48.0 | 0 |
| Harrison | 47.0 | 47.0 | 0 |
| Hinds | 0 | 0 | 0 |
| Holmes | 0 | 0 | 0 |
| Humphreys | 0 | 0 | 0 |
| Issaquena | 0 | 0 | 0 |
| Itawamba | 0 | 0 | 0 |
| Jackson | 3.4 | 3.4 | 0 |
| Jasper | 1.9 | 1.9 | 0 |
| Jefferson | 8.9 | 8.9 | 0 |
| Jefferson Davis | 16.2 | 16.2 | 0 |
| Jones | 18.5 | 18.5 | 0 |
| Kemper | 1.8 | 1.8 | 0 |
| Lafayette | 0 | 0 | 0 |
| Lamar | 64.3 | 64.3 | 0 |
| Lauderdale | 5.7 | 5.7 | 0 |
| Lawrence | 44.8 | 44.8 | 0 |
| Leake | 24.7 | 24.7 | 0 |
| Lee | 0 | 0 | 0 |
| Leflore | 0 | 0 | 0 |

Table 9.--Pole and piling production by county, 1946 (Cont'd.)

| County | All species | Softwood | Hardwood |
|---|---|---|---|
| | - - - - - - | Thousand pieces | - - - - - - |
| Lincoln | 84.9 | 84.9 | 0 |
| Lowndes | .7 | .7 | 0 |
| Madison | 0 | 0 | 0 |
| Marion | 10.8 | 10.8 | 0 |
| Marshall | 0 | 0 | 0 |
| Monroe | 0 | 0 | 0 |
| Montgomery | .2 | .2 | 0 |
| Neshoba | 2.2 | 2.2 | 0 |
| Newton | 5.2 | 5.2 | 0 |
| Noxubee | .4 | .4 | 0 |
| Oktibbeha | 0 | 0 | 0 |
| Panola | 0 | 0 | 0 |
| Pearl River | 52.1 | 52.1 | 0 |
| Perry | 13.6 | 13.6 | 0 |
| Pike | 59.4 | 59.4 | 0 |
| Pontotoc | .2 | .2 | 0 |
| Prentiss | .8 | .8 | 0 |
| Quitman | 0 | 0 | 0 |
| Rankin | 14.3 | 14.3 | 0 |
| Scott | 18.1 | 18.1 | 0 |
| Sharkey | 0 | 0 | 0 |
| Simpson | 20.5 | 20.5 | 0 |
| Smith | 0 | 0 | 0 |
| Stone | 46.0 | 46.0 | 0 |
| Sunflower | 0 | 0 | 0 |
| Tallahatchie | 0 | 0 | 0 |
| Tate | 0 | 0 | 0 |
| Tippah | .2 | .2 | 0 |
| Tishomingo | 1.7 | 1.7 | 0 |
| Tunica | 0 | 0 | 0 |
| Union | .2 | .2 | 0 |
| Walthall | 22.6 | 22.6 | 0 |
| Warren | 0 | 0 | 0 |
| Washington | 0 | 0 | 0 |
| Wayne | 1.7 | 1.7 | 0 |
| Webster | 0 | 0 | 0 |
| Wilkinson | 64.6 | 64.6 | 0 |
| Winston | 4.5 | 4.5 | 0 |
| Yalobusha | 0 | 0 | 0 |
| Yazoo | 0 | 0 | 0 |
| Total | 913.2 | 913.2 | 0 |

Table 10.--Veneer log production by county, 1946

| County | All species | Softwood | Hardwood |
|---|---|---|---|
| | Million bd. ft. (International 1/4-inch log rule) | | |
| Adams | 5.8 | 1.2 | 4.6 |
| Alcorn | 0 | 0 | 0 |
| Amite | .7 | 0 | .7 |
| Attala | 0 | 0 | 0 |
| Benton | 0 | 0 | 0 |
| Bolivar | 8.0 | 0 | 8.0 |
| Calhoun | 0 | 0 | 0 |
| Carroll | 0 | 0 | 0 |
| Chickasaw | 0 | 0 | 0 |
| Choctaw | 0 | 0 | 0 |
| Claiborne | 13.3 | .8 | 12.5 |
| Clarke | .3 | 0 | .3 |
| Clay | .1 | 0 | .1 |
| Coahoma | .2 | 0 | .2 |
| Copiah | 7.5 | 1.1 | 6.4 |
| Covington | 2.9 | 1.1 | 1.8 |
| De Soto | 0 | 0 | 0 |
| Forrest | .1 | 0 | .1 |
| Franklin | .3 | .1 | .2 |
| George | 2.0 | 1.1 | .9 |
| Greene | 5.6 | 1.4 | 4.2 |
| Grenada | 0 | 0 | 0 |
| Hancock | 2.1 | 0 | 2.1 |
| Harrison | .5 | .1 | .4 |
| Hinds | .9 | 0 | .9 |
| Holmes | 0 | 0 | 0 |
| Humphreys | 0 | 0 | 0 |
| Issaquena | 1.1 | 0 | 1.1 |
| Itawamba | 0 | 0 | 0 |
| Jackson | 4.4 | 0 | 4.4 |
| Jasper | 4.7 | 0 | 4.7 |
| Jefferson | 9.0 | .4 | 8.6 |
| Jefferson Davis | 2.2 | .3 | 1.9 |
| Jones | 1.7 | .1 | 1.6 |
| Kemper | 0 | 0 | 0 |
| Lafayette | (1/) | 0 | (1/) |
| Lamar | .3 | (1/) | .3 |
| Lauderdale | 2.6 | 0 | 2.6 |
| Lawrence | 3.6 | 0 | 3.6 |
| Leake | 0 | 0 | 0 |
| Lee | 0 | 0 | 0 |
| Leflore | 2 | 0 | 2 |

Table 10.--Veneer log production by county, 1946 (Cont'd.)

| County | All species | Softwood | Hardwood |
|---|---|---|---|
| | Million bd. ft. (International 1/4-inch log rule) | | |
| Lincoln | 1.9 | .4 | 1.5 |
| Lowndes | .5 | (1/) | .5 |
| Madison | .4 | 0 | .4 |
| Marion | 1.2 | 0 | 1.2 |
| Marshall | (1/) | 0 | (1/) |
| Monroe | 0 | 0 | 0 |
| Montgomery | 0 | 0 | 0 |
| Neshoba | 0 | 0 | 0 |
| Newton | 1.2 | 0 | 1.2 |
| Noxubee | 0 | 0 | 0 |
| Oktibbeha | 0 | 0 | 0 |
| Panola | 0 | 0 | 0 |
| Pearl River | 1.0 | 0 | 1.0 |
| Perry | 1.6 | .4 | 1.2 |
| Pike | 1.2 | .2 | 1.0 |
| Pontotoc | 0 | 0 | 0 |
| Prentiss | 0 | 0 | 0 |
| Quitman | 0 | 0 | 0 |
| Rankin | .4 | 0 | .4 |
| Scott | 0 | 0 | 0 |
| Sharkey | .7 | 0 | .7 |
| Simpson | 1.6 | .5 | 1.1 |
| Smith | 2.3 | .2 | 2.1 |
| Stone | 1.6 | .4 | 1.2 |
| Sunflower | 0 | 0 | 0 |
| Tallahatchie | 0 | 0 | 0 |
| Tate | (1/) | 0 | (1/) |
| Tippah | 0 | 0 | 0 |
| Tishomingo | 0 | 0 | 0 |
| Tunica | 0 | 0 | 0 |
| Union | 0 | 0 | 0 |
| Walthall | 1.3 | 0 | 1.3 |
| Warren | 6.4 | .5 | 5.9 |
| Washington | .3 | 0 | .3 |
| Wayne | 4.0 | .8 | 3.2 |
| Webster | 0 | 0 | 0 |
| Wilkinson | .2 | .1 | .1 |
| Winston | 0 | 0 | 0 |
| Yalobusha | 0 | 0 | 0 |
| Yazoo | 1.7 | 0 | 1.7 |
| Total | 109.6 | 11.2 | 98.4 |

1/ Negligible.

Table 11.--Cooperage bolt production by county, 1946

| County | All species | Softwood | Hardwood |
|---|---|---|---|
| | Million bd. ft. (International 1/4-inch log rule) | | |
| Adams | 2.6 | 0 | 2.6 |
| Alcorn | .3 | 0 | .3 |
| Amite | 0 | 0 | 0 |
| Attala | 3.2 | 0 | 3.2 |
| Benton | .3 | 0 | .3 |
| Bolivar | 1.0 | 0 | 1.0 |
| Calhoun | 0 | 0 | 0 |
| Carroll | .6 | 0 | .6 |
| Chickasaw | .2 | 0 | .2 |
| Choctaw | 0 | 0 | 0 |
| Claiborne | 1.3 | 0 | 1.3 |
| Clarke | 1.0 | 0 | 1.0 |
| Clay | .2 | 0 | .2 |
| Coahoma | 3.9 | 0 | 3.9 |
| Copiah | .1 | 0 | .1 |
| Covington | 0 | 0 | 0 |
| De Soto | 0 | 0 | 0 |
| Forrest | 0 | 0 | 0 |
| Franklin | .3 | 0 | .3 |
| George | 0 | 0 | 0 |
| Greene | 0 | 0 | 0 |
| Grenada | 2.3 | 0 | 2.3 |
| Hancock | .1 | 0 | .1 |
| Harrison | 1.8 | 1.8 | 0 |
| Hinds | 6.2 | (1/) | 6.2 |
| Holmes | 10.0 | 0 | 10.0 |
| Humphreys | 0 | 0 | 0 |
| Issaquena | 1.1 | 0 | 1.1 |
| Itawamba | .1 | 0 | .1 |
| Jackson | 0 | 0 | 0 |
| Jasper | 2.3 | 0 | 2.3 |
| Jefferson | .2 | 0 | .2 |
| Jefferson Davis | 0 | 0 | 0 |
| Jones | 0 | 0 | 0 |
| Kemper | .1 | 0 | .1 |
| Lafayette | 2.6 | 0 | 2.6 |
| Lamar | 0 | 0 | 0 |
| Lauderdale | (1/) | 0 | (1/) |
| Lawrence | 0 | 0 | 0 |
| Leake | .6 | 0 | .6 |
| Lee | .1 | 0 | .1 |
| Leflore | .1 | 0 | .1 |

Table 11.--Cooperage bolt production by county, 1946

| County | All species | Softwood | Hardwood |
|---|---|---|---|
| | Million bd. ft. (International 1/4-inch log rule) | | |
| Lincoln | 0 | 0 | 0 |
| Lowndes | .4 | 0 | .4 |
| Madison | 2.9 | 0 | 2.9 |
| Marion | 0 | 0 | 0 |
| Marshall | .4 | 0 | .4 |
| Monroe | 2.8 | 0 | 2.8 |
| Montgomery | .3 | 0 | .3 |
| Neshoba | 4.6 | 0 | 4.6 |
| Newton | 2.5 | 0 | 2.5 |
| Noxubee | .1 | 0 | .1 |
| Oktibbeha | .2 | 0 | .2 |
| Panola | 1.8 | 0 | 1.8 |
| Pearl River | 0 | 0 | 0 |
| Perry | 0 | 0 | 0 |
| Pike | 0 | 0 | 0 |
| Pontotoc | 1.0 | 0 | 1.0 |
| Prentiss | (1/) | 0 | (1/) |
| Quitman | 0 | 0 | 0 |
| Rankin | 8.4 | 0 | 8.4 |
| Scott | 2.5 | 0 | 2.5 |
| Sharkey | .8 | 0 | .8 |
| Simpson | .1 | 0 | .1 |
| Smith | 1.1 | 0 | 1.1 |
| Stone | 0 | 0 | 0 |
| Sunflower | 0 | 0 | 0 |
| Tallahatchie | .7 | 0 | .7 |
| Tate | 0 | 0 | 0 |
| Tippah | 1.1 | 0 | 1.1 |
| Tishomingo | 0 | 0 | 0 |
| Tunica | 0 | 0 | 0 |
| Union | 3.8 | 0 | 3.8 |
| Walthall | 0 | 0 | 0 |
| Warren | 8.7 | .5 | 8.2 |
| Washington | 1.9 | (1/) | 1.9 |
| Wayne | 0 | 0 | 0 |
| Webster | 0 | 0 | 0 |
| Wilkinson | (1/) | 0 | (1/) |
| Winston | (1/) | 0 | (1/) |
| Yalobusha | 7.7 | 0 | 7.7 |
| Yazoo | 7.1 | (1/) | 7.1 |
| Total | 103.5 | 2.3 | 101.2 |

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1/ Negligible.

Table 12.--Hewn tie production by county, 1946

| County | All species | Softwood | Hardwood |
|---|---|---|---|
| | - - - - - | Thousand pieces | - - - - - - |
| Adams | 14.2 | 7.1 | 7.1 |
| Alcorn | 15.9 | 4.3 | 11.6 |
| Amite | 48.8 | 24.8 | 24.0 |
| Attala | 14.6 | 7.3 | 7.3 |
| Benton | .1 | (1/) | .1 |
| Bolivar | 0 | 0 | 0 |
| Calhoun | 6.7 | 0 | 6.7 |
| Carroll | 4.7 | 1.0 | 3.7 |
| Chickasaw | 38.5 | 1.9 | 36.6 |
| Choctaw | 15.6 | 5.8 | 9.8 |
| Claiborne | .8 | .4 | .4 |
| Clarke | 190.7 | 70.7 | 120.0 |
| Clay | 6.4 | 1.3 | 5.1 |
| Coahoma | 0 | 0 | 0 |
| Copiah | 38.7 | 17.3 | 21.4 |
| Covington | 31.4 | 14.7 | 16.7 |
| De Soto | 0 | 0 | 0 |
| Forrest | 5.0 | 3.0 | 2.0 |
| Franklin | 51.4 | 25.3 | 26.1 |
| George | 35.7 | 16.3 | 19.4 |
| Greene | 15.8 | 5.0 | 10.8 |
| Grenada | 10.2 | 5.1 | 5.1 |
| Hancock | 8.2 | 5.7 | 2.5 |
| Harrison | 0 | 0 | 0 |
| Hinds | 10.9 | 5.4 | 5.5 |
| Holmes | .6 | .2 | .4 |
| Humphreys | .2 | 1/ | .2 |
| Issaquena | 0 | 0 | 0 |
| Itawamba | 0 | 0 | 0 |
| Jackson | 0 | 0 | 0 |
| Jasper | 142.0 | 60.9 | 81.1 |
| Jefferson | 51.2 | 25.6 | 25.6 |
| Jefferson Davis | 137.7 | 54.5 | 83.2 |
| Jones | 13.7 | 4.8 | 8.9 |
| Kemper | 16.1 | 3.9 | 12.2 |
| Lafayette | 52.6 | 15.1 | 37.5 |
| Lamar | 76.0 | 30.7 | 45.3 |
| Lauderdale | 81.4 | 28.3 | 53.1 |
| Lawrence | 137.1 | 63.2 | 73.9 |
| Leake | 11.8 | 7.1 | 4.7 |
| Lee | 1.7 | 0 | 1.7 |
| Leflore | 12.6 | 3.8 | 8.8 |

Table 12.--Hewn tie production by county, 1946 (Cont'd.)

| County | All species | Softwood | Hardwood |
|---|---|---|---|
| | - - - - - - | Thousand pieces | - - - - - - |
| Lincoln | 48.2 | 26.6 | 21.6 |
| Lowndes | 7.7 | 1.5 | 6.2 |
| Madison | 0 | 0 | 0 |
| Marion | 155.5 | 64.2 | 91.3 |
| Marshall | 0 | 0 | 0 |
| Monroe | 1.1 | (1/) | 1.1 |
| Montgomery | 7.2 | 2.6 | 4.6 |
| Neshoba | 48.7 | 11.9 | 36.8 |
| Newton | 125.2 | 38.1 | 87.1 |
| Noxubee | 47.9 | 2.8 | 45.1 |
| Oktibbeha | 15.9 | 5.8 | 10.1 |
| Panola | 0 | 0 | 0 |
| Pearl River | 11.9 | 8.3 | 3.6 |
| Perry | 63.6 | 19.5 | 44.1 |
| Pike | 102.8 | 38.1 | 64.7 |
| Pontotoc | 5.2 | .7 | 4.5 |
| Prentiss | 53.3 | 1.9 | 51.4 |
| Quitman | 0 | 0 | 0 |
| Rankin | 39.4 | 11.8 | 27.6 |
| Scott | 111.5 | 33.0 | 78.5 |
| Sharkey | 0 | 0 | 0 |
| Simpson | 56.8 | 23.8 | 33.0 |
| Smith | 5.8 | 2.9 | 2.9 |
| Stone | .8 | .5 | .3 |
| Sunflower | 0 | 0 | 0 |
| Tallahatchie | 0 | 0 | 0 |
| Tate | 0 | 0 | 0 |
| Tippah | 15.7 | .7 | 15.0 |
| Tishomingo | 31.4 | 14.2 | 17.2 |
| Tunica | 0 | 0 | 0 |
| Union | 4.3 | .7 | 3.6 |
| Walthall | 100.6 | 45.8 | 54.8 |
| Warren | .4 | .1 | .3 |
| Washington | 0 | 0 | 0 |
| Wayne | 40.4 | 11.0 | 29.4 |
| Webster | 4.1 | .3 | 3.8 |
| Wilkinson | 90.4 | 32.6 | 57.8 |
| Winston | 66.5 | 17.2 | 49.3 |
| Yalobusha | 5.1 | 2.6 | 2.5 |
| Yazoo | 0 | 0 | 0 |
| Total | 2,566.4 | 939.7 | 1,626.7 |

1/ Negligible.

Table 13.--Production of miscellaneous log products by county, 1946

| County | All species | Softwood | Hardwood |
|---|---|---|---|
| | Million bd. ft. (International 1/4-inch log rule) | | |
| Adams | 0.8 | (1/) | 0.8 |
| Alcorn | 0 | 0 | 0 |
| Amite | 0 | 0 | 0 |
| Attala | .1 | 0 | .1 |
| Benton | .3 | 0 | .3 |
| Bolivar | .4 | 0 | .4 |
| Calhoun | 1.3 | (1/) | 1.3 |
| Carroll | .4 | 0 | .4 |
| Chickasaw | 1.7 | 0 | 1.7 |
| Choctaw | .2 | 0 | .2 |
| Claiborne | .4 | (1/) | .4 |
| Clarke | .2 | .1 | .1 |
| Clay | 1.1 | 0 | 1.1 |
| Coahoma | 0 | 0 | 0 |
| Copiah | .4 | 0 | .4 |
| Covington | (1/) | 0 | (1/) |
| De Soto | .5 | 0 | .5 |
| Forrest | .1 | 0 | .1 |
| Franklin | .1 | 0 | .1 |
| George | 1.0 | 0 | 1.0 |
| Greene | .2 | (1/) | .2 |
| Grenada | .1 | 0 | .1 |
| Hancock | 0 | 0 | 0 |
| Harrison | 0 | 0 | 0 |
| Hinds | 1.6 | (1/) | 1.6 |
| Holmes | .2 | 0 | .2 |
| Humphreys | .5 | 0 | .5 |
| Issaquena | .2 | 0 | .2 |
| Itawamba | 0 | 0 | 0 |
| Jackson | .1 | 0 | .1 |
| Jasper | .7 | .2 | .5 |
| Jefferson | .1 | 0 | .1 |
| Jefferson Davis | (1/) | 0 | (1/) |
| Jones | 1.1 | .3 | .8 |
| Kemper | .6 | 0 | .6 |
| Lafayette | .3 | 0 | .3 |
| Lamar | .1 | 0 | .1 |
| Lauderdale | .3 | 0 | .3 |
| Lawrence | .1 | 0 | .1 |
| Leake | .1 | 0 | .1 |
| Lee | (1/) | 0 | (1/) |
| Leflore | (1/) | 0 | (1/) |

Table 13.--Production of miscellaneous log products by county, 1946 (Cont'd.)

| County | All species | Softwood | Hardwood |
|---|---|---|---|
| | Million bd. ft. (International 1/4-inch log rule) | | |
| Lincoln | 0 | 0 | 0 |
| Lowndes | .7 | 0 | .7 |
| Madison | 1.2 | 0 | 1.2 |
| Marion | 0 | 0 | 0 |
| Marshall | .8 | 0 | .8 |
| Monroe | .9 | 0 | .9 |
| Montgomery | .2 | 0 | .2 |
| Neshoba | .3 | 0 | .3 |
| Newton | .6 | 0 | .6 |
| Noxubee | 1.8 | 0 | 1.8 |
| Oktibbeha | .2 | 0 | .2 |
| Panola | .7 | 0 | .7 |
| Pearl River | 0 | 0 | 0 |
| Perry | (1/) | 0 | (1/) |
| Pike | 0 | 0 | 0 |
| Pontotoc | 1.1 | 0 | 1.1 |
| Prentiss | (1/) | 0 | (1/) |
| Quitman | 0 | 0 | 0 |
| Rankin | .1 | 0 | .1 |
| Scott | (1/) | 0 | (1/) |
| Sharkey | .6 | 0 | .6 |
| Simpson | .2 | 0 | .2 |
| Smith | .2 | .1 | .1 |
| Stone | (1/) | 0 | (1/) |
| Sunflower | 0 | 0 | 0 |
| Tallahatchie | .1 | 0 | .1 |
| Tate | (1/) | 0 | (1/) |
| Tippah | 1.3 | 0 | 1.3 |
| Tishomingo | 0 | 0 | 0 |
| Tunica | .3 | 0 | .3 |
| Union | 1.0 | 0 | 1.0 |
| Walthall | 0 | 0 | 0 |
| Warren | 1.0 | 0 | 1.0 |
| Washington | .4 | 0 | .4 |
| Wayne | .3 | .1 | .2 |
| Webster | .3 | 0 | .3 |
| Wilkinson | 0 | 0 | 0 |
| Winston | .4 | 0 | .4 |
| Yalobusha | .1 | 0 | .1 |
| Yazoo | 1.3 | (1/) | 1.3 |
| Total | 31.4 | .8 | 30.6 |

1/ Negligible.

OREST SURVEY RELEASE 63 DECEMBER 1949

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# FOREST STATISTICS FOR
# WESTERN AND CENTRAL TENNESSEE

A REPORT OF THE SOUTHERN FOREST SURVEY
William A. Duerr, In Charge

SOUTHERN FOREST EXPERIMENT STATION
Chas. A. Connaughton, Director
New Orleans, La.

# THE SOUTHERN FOREST SURVEY

The Southern Forest Survey, an activity of the Southern Forest Experiment Station, covers the seven States of the Station's territory--Alabama, Arkansas, Louisiana, Mississippi, Oklahoma, Tennessee, and Texas. This Survey is a part of the nation-wide Forest Survey authorized by the McSweeney-McNary Forest Research Act of 1928. Its fivefold purpose is (1) to take inventory of the supply of standing timber and other forest products; (2) to ascertain the rate at which this supply is being increased through growth; (3) to determine the rate at which this supply is being diminished through industrial and local use, and by fire, insects, disease, and other agencies; (4) to estimate the present requirements and the probable future trend in the requirements for timber and other forest products; and (5) to correlate these findings with existing and anticipated economic conditions, in order that policies may be formulated for the effective use of lands suitable for forest production.

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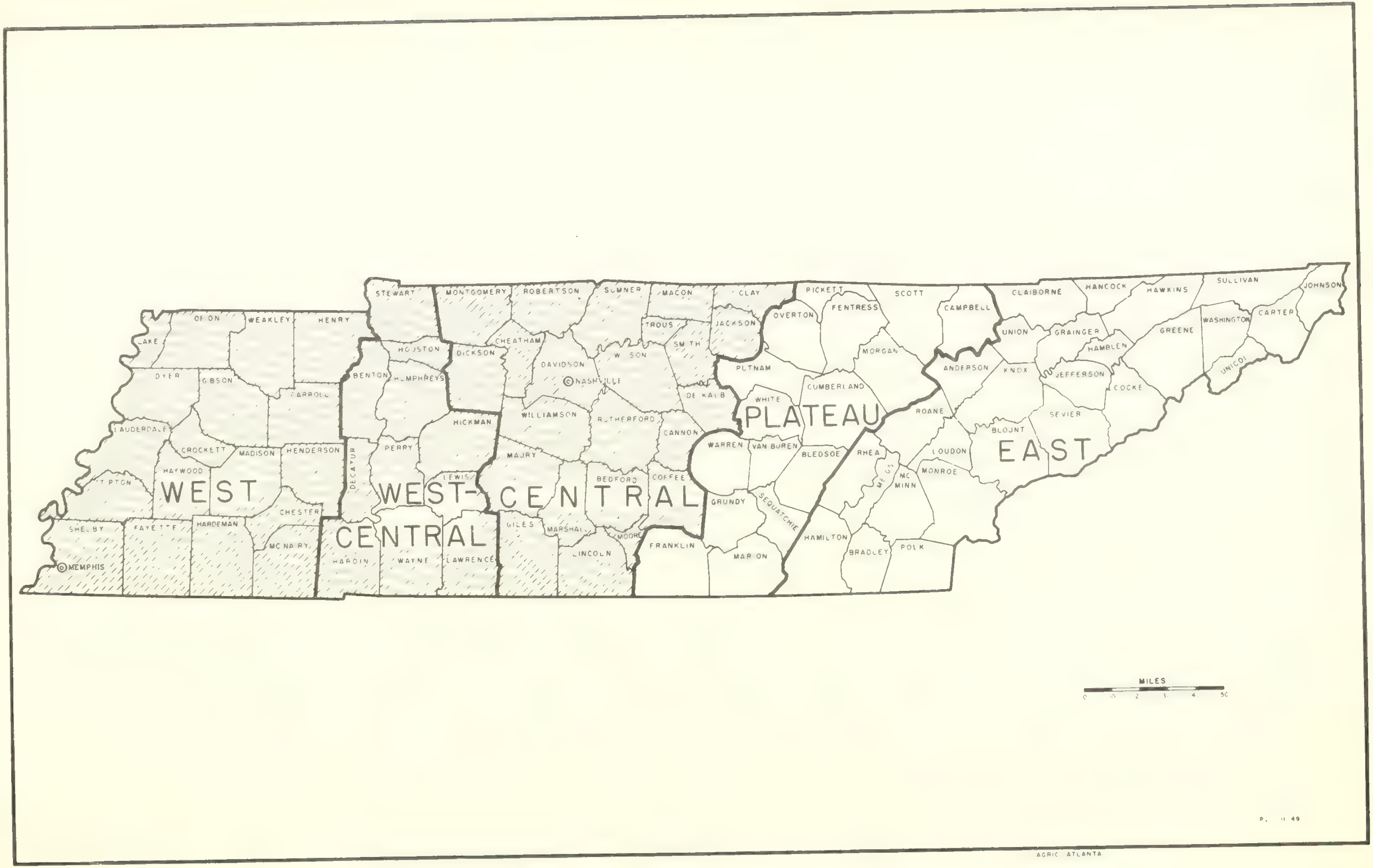


Forest regions in Tennessee. (Regions included in this report are the shaded portions of the map.)

# FOREST STATISTICS FOR WESTERN AND CENTRAL TENNESSEE

This publication summarizes the data on forest acreage and timber volume collected by the Southern Forest Survey in western and central Tennessee (figure 1). The survey was made between July 1948 and April 1949. The eastern portions of Tennessee are scheduled to be surveyed during 1950.

## Highlights

Extending from the Mississippi River to the Cumberland Plateau, western and central Tennessee embraces 15.7 million acres, of which 40 percent is forest land. Although the area displays considerable physiographic variation, it is characterized throughout by an agricultural economy. In the west Tennessee region, cotton is the main cash crop. Memphis, the economic focal point of the region, is the principal market for the cotton crop and also a center in the manufacture and marketing of hardwood from the forests. East of the Tennessee River, in the west-central and central regions, higher elevations prevail. Here tobacco, livestock, and dairying are the major income sources for the predominantly rural population. Nashville, the State capital, forms the economic and cultural hub of this upland area.

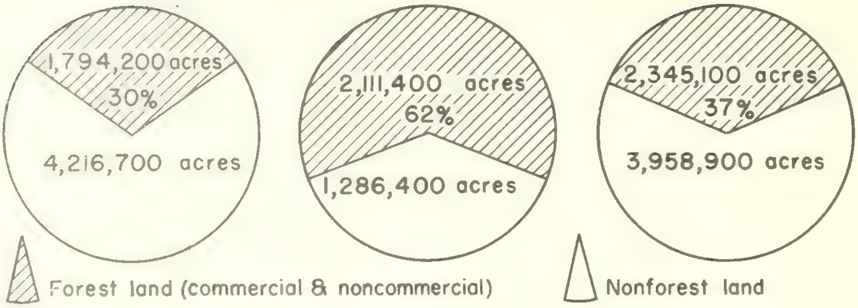
West Tennessee, geologically a part of the Gulf Coastal Plain, is lightly forested. The plain rises from an elevation of 300 to 400 feet at the Mississippi River to approximately 700 feet at its eastern margin overlooking the Tennessee River. Sawlog volume in the region averages 1,817 board feet per acre in the hardwood forests and 893 board feet per acre in the softwood forests (mainly shortleaf pine). Over 90 percent of the 802.7 million cubic feet of total growing stock is composed of hardwoods. This region contains almost three times as much sawlog volume (371.4 million board feet) in trees over 25 inches d.b.h. as west-central and central Tennessee combined. This is due primarily to the concentration of bottomland-hardwood forests, where the trees grow rapidly and to large size; and where commercial cutting, because of higher standards of merchantability, is lighter than in the other types of forest.

# FOREST ACREAGE

**WEST** **WEST-CENTRAL** **CENTRAL**

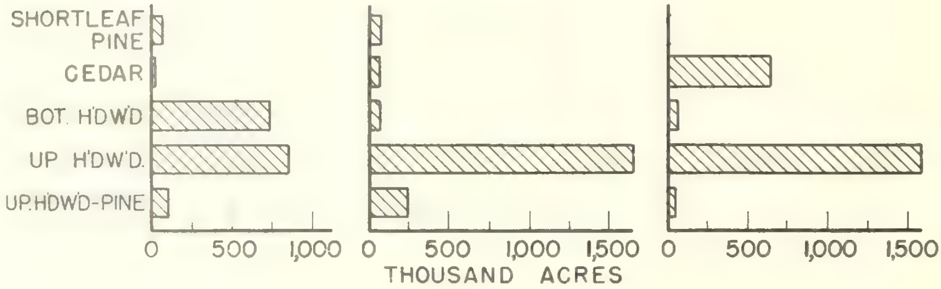
## FOREST LAND

West and central Tennessee are lightly forested. The west-central region, however, is nearly two-thirds forest.



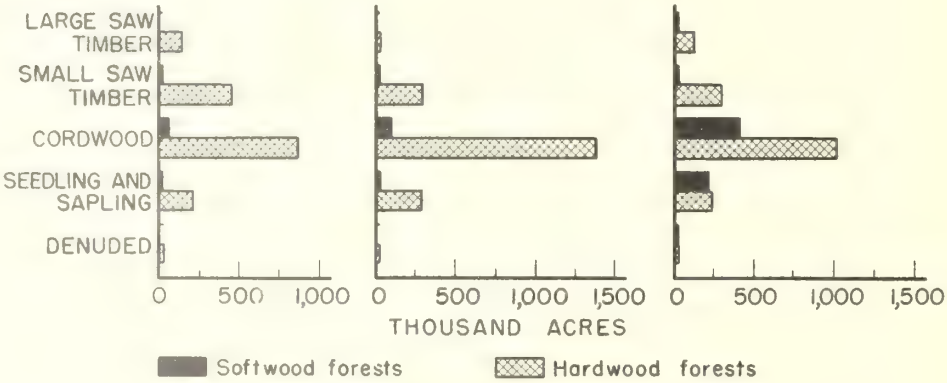
## FOREST TYPE

Upland hardwoods predominate in all regions. In addition, there are large acreages of bottomland hardwoods in the west, and cedar in the central region



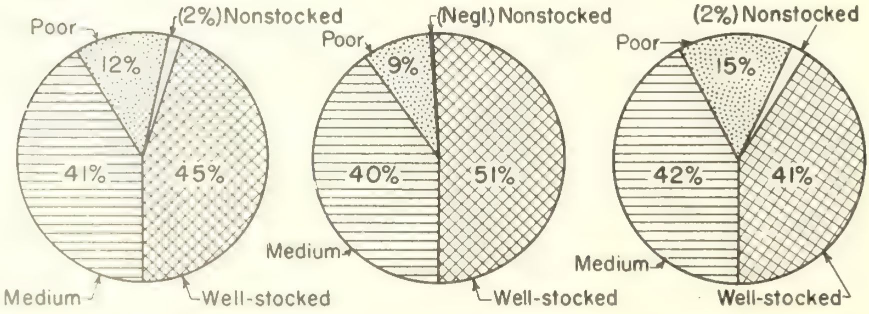
## STAND SIZE

Cordwood stands predominate in all regions, both in the hardwood and in softwood forest types



## FOREST STOCKING

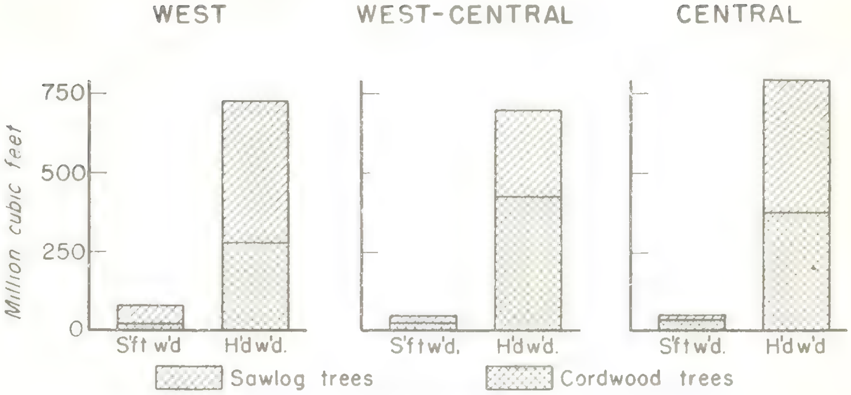
Considering all well-formed trees, including established seedlings, about half of the forest land is well stocked. Best stocking is found in the west-central region.



# TIMBER VOLUME

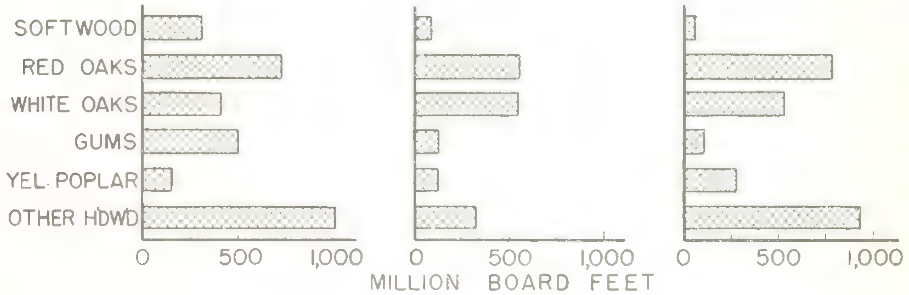
## TOTAL GROWING STOCK

Hardwoods make up approximately 90 percent of the total growing stock in all regions Most of the total growing stock is in sawlog trees.



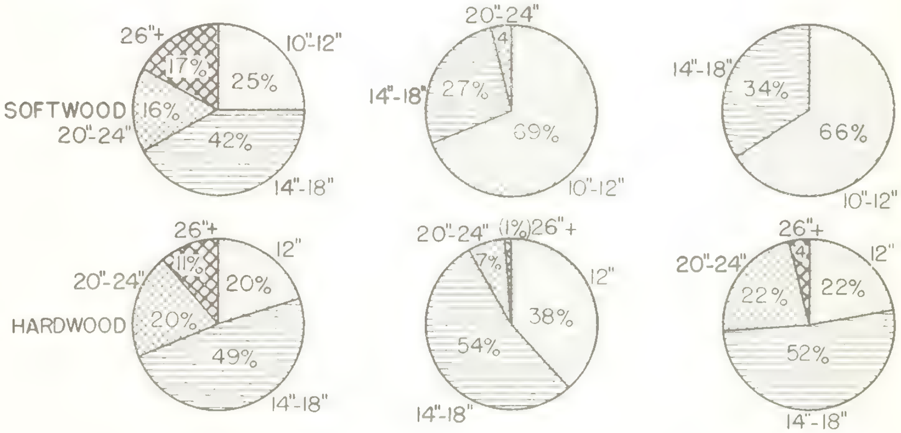
## SAWLOG VOLUME BY SPECIES GROUP

In terms of saw timber, oaks constitute the largest species group. Red oaks predominate.



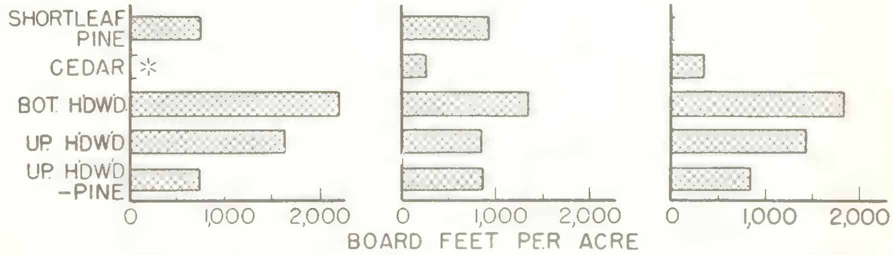
## SAWLOG VOLUME BY TREE DIAMETER

Hardwood sawlog volume is concentrated in the 14"–18" d.b.h group in all regions Softwood distrbution varies



## SAWLOG VOLUME PER ACRE BY FOREST TYPE

All forest types are rather poorly stocked with sawlog trees. The average in west Tennessee is 1,774 bd. ft. per acre; in west-central, 846 bd ft.; and in central, 1,145 bd. ft.



* Sample too small to be reliable

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The west-central region, comprising 11 counties east of the Tennessee River, is the most heavily forested of the three regions. Sixty-two percent of the almost 3.5 million acres in the region is forested, largely with upland hardwoods. The poor quality of the soil for agriculture will undoubtedly continue to favor the expansion of forest acreage in this region. Sawlog volume averages only 862 board feet per acre in the hardwood types and 625 board feet per acre in the softwood types.

The central region, extending east to the Cumberland Plateau, is an area of fertile limestone soils and some poorer shales and sandstones. It is the largest of the three regions, containing over 6.3 million acres. Of this, 37 percent is forest land. Although the forest is composed mainly of upland hardwoods, it also includes a vast acreage of cedar stands, embracing almost 30 percent of the forest area. Sawlog volume in the region averages 1,444 board feet per acre for the hardwood types and 358 board feet per acre for the softwood types (primarily cedar). The total growing stock amounts to 837.2 million cubic feet, of which 6 percent is softwoods.

Accompanying the low per-acre timber volumes in all regions is a low basal area[1] of growing stock, which averages about 40 square feet per acre in the extensive upland hardwood types. This is roughly half of what the basal area would be under full stocking. Only about half the forest in all three regions is well stocked, considering all well-formed trees from seedlings to saw timber. Over 70 percent of the sawlog volume in all regions is in grade 3 logs or trees--knotty material, suited mainly to low-grade uses.

## Accuracy of the Data

Data were obtained from a sampling of aerial photographs and from on-the-ground measurements on quarter-acre sample plots (two at each location) located every 3 miles on lines 3 miles apart throughout western and central Tennessee. Statistical analysis of the data for the three Survey regions indicates a sampling error of 1 percent for the estimate of total forest area, 4 percent for total cubic-foot volume, and 5 percent for total board-foot volume. As these totals are broken down by region, county, forest type, species, and other subdivisions, the possibility of error increases and is greatest for the smallest items.

---

1/ Definitions of terms used in this report will be found in the appendix.

The maximum sampling error to which the estimates are liable, on a probability of two chances out of three, is approximately as follows:

| Maximum sampling error in forest area | | Maximum sampling error in cubic-foot volume | | Maximum sampling error in board-foot volume | |
|---|---|---|---|---|---|
| Thousand acres | Percent error | Million cu. ft. | Percent error | Million bd. ft. | Percent error |
| 2,000 | 1 | 800 | 4 | 3,000 | 5 |
| 1,000 | 1 | 400 | 6 | 1,500 | 7 |
| 500 | 2 | 100 | 12 | 500 | 13 |
| 50 | 6 | 10 | 37 | 50 | 41 |

The estimates of sampling error do not include errors in volume tables, cull allowances, or other such measurements. Methods of estimating errors of this type have not been developed.

Table 1.--Forest and nonforest land area by Survey region, 1948-49

| Land use | West | West-central | Central |
|---|---|---|---|
| | Thousand acres | | |
| Forest:[1] | | | |
| Commercial | 1,787.7 | 2,107.1 | 2,344.8 |
| Reserved-commercial | 6.5 | 4.3 | .3 |
| Total | 1,794.2 | 2,111.4 | 2,345.1 |
| Nonforest | 4,216.7 | 1,286.4 | 3,958.9 |
| All land | 6,010.9 | 3,397.8 | 6,304.0 |

[1] No forest land was found that was incapable of producing commercial timber.

Table 2.--Land area and commercial forest by county, 1948-49[1]

| County | All land | Commercial forest | |
|---|---|---|---|
| | Thousand acres | Thousand acres | Percent |
| Bedford | 308.5 | 77.7 | 25.2 |
| Benton | 275.2 | 146.0 | 53.1 |
| Cannon | 173.4 | 78.5 | 45.3 |
| Carroll | 381.4 | 133.4 | 35.0 |
| Cheatham | 195.2 | 126.4 | 64.8 |
| Chester | 182.4 | 67.8 | 37.2 |
| Clay | 169.0 | 78.6 | 46.5 |
| Coffee | 278.4 | 131.7 | 47.3 |
| Crockett | 172.2 | 26.8 | 15.6 |
| Davidson | 340.5 | 126.3 | 37.1 |
| Decatur | 221.4 | 125.5 | 56.7 |
| De Kalb | 202.9 | 100.4 | 49.5 |
| Dickson | 311.0 | 141.2 | 45.4 |
| Dyer | 337.3 | 105.3 | 31.2 |
| Fayette | 450.5 | 117.5 | 26.1 |
| Gibson | 388.5 | 66.4 | 17.1 |
| Giles | 396.1 | 120.4 | 30.4 |
| Hardeman | 419.2 | 178.4 | 42.6 |
| Hardin | 380.8 | 221.9 | 58.3 |
| Haywood | 332.2 | 89.3 | 26.9 |
| Henderson | 329.6 | 119.2 | 36.2 |
| Henry | 383.4 | 130.0 | 33.9 |
| Hickman | 392.3 | 249.3 | 63.5 |
| Houston | 132.5 | 86.3 | 65.1 |
| Humphreys | 355.2 | 223.1 | 62.8 |
| Jackson | 209.3 | 87.5 | 41.8 |
| Lake | 105.0 | 25.1 | 23.9 |
| Lauderdale | 311.7 | 108.5 | 34.8 |
| Lawrence | 405.8 | 174.0 | 42.9 |
| Lewis | 182.4 | 137.4 | 75.3 |
| Lincoln | 371.8 | 139.8 | 37.6 |
| McNairy | 364.2 | 139.0 | 38.2 |
| Macon | 194.6 | 79.4 | 40.8 |
| Madison | 359.0 | 113.4 | 31.6 |
| Marshall | 241.3 | 78.2 | 32.4 |
| Maury | 392.9 | 117.5 | 29.9 |

Table 2.--Land area and commercial forest by county, 1948-49[1] (continued)

| County | All land | Commercial forest | |
|---|---|---|---|
| | Thousand acres | Thousand acres | Percent |
| Montgomery | 347.5 | 125.1 | 36.0 |
| Moore | 78.1 | 30.2 | 38.7 |
| Obion | 352.0 | 94.0 | 26.7 |
| Perry | 268.2 | 192.2 | 71.7 |
| Robertson | 303.4 | 76.8 | 25.3 |
| Rutherford | 403.2 | 123.9 | 30.7 |
| Shelby | 480.6 | 113.6 | 23.6 |
| Smith | 208.0 | 88.4 | 42.5 |
| Stewart | 309.8 | 208.7 | 67.4 |
| Sumner | 353.3 | 124.4 | 35.2 |
| Tipton | 293.1 | 73.4 | 25.0 |
| Trousdale | 74.2 | 24.7 | 33.3 |
| Wayne | 474.2 | 342.7 | 72.3 |
| Weakley | 368.6 | 86.6 | 23.5 |
| Williamson | 380.2 | 134.5 | 35.4 |
| Wilson | 371.2 | 133.2 | 35.9 |

1/ County data on sawlog and total growing stock, suitable for combining into county groups, are available as a supplement to this release.

Table 3.--Commercial forest land by stand size and forest type, by Survey region, 1948-49

| Forest type | All stand sizes | Large saw timber | Small saw timber | Cordwood | Seedling and sapling | Denuded |
|---|---|---|---|---|---|---|
| | - - - - - - - - | - - - - - | Thousand acres | - - - - - | - - - - - | - - - |
| | | | WEST | | | |
| Softwood types: | | | | | | |
| Shortleaf pine | 67.6 | ... | 10.6 | 52.4 | 4.6 | ... |
| Cedar | 15.8 | ... | 3.0 | 9.5 | 3.3 | ... |
| Total | 83.4 | ... | 13.6 | 61.9 | 7.9 | ... |
| Hardwood types: | | | | | | |
| Bottomland hardwood | 733.4 | 76.1 | 229.0 | 365.4 | 57.3 | 5.6 |
| Upland hardwood | 867.0 | 57.5 | 223.9 | 428.5 | 134.8 | 22.3 |
| Upland hardwood-pine | 103.9 | 6.2 | 2.1 | 78.6 | 13.7 | 3.3 |
| Total | 1,704.3 | 139.8 | 455.0 | 872.5 | 205.8 | 31.2 |
| All types | 1,787.7 | 139.8 | 468.6 | 934.4 | 213.7 | 31.2 |
| | | | WEST-CENTRAL | | | |
| Softwood types: | | | | | | |
| Shortleaf pine | 74.8 | ... | 20.2 | 51.9 | 2.7 | ... |
| Cedar | 64.6 | ... | ... | 44.2 | 20.4 | ... |
| Total | 139.4 | ... | 20.2 | 96.1 | 23.1 | ... |
| Hardwood types: | | | | | | |
| Bottomland hardwood | 66.8 | 2.5 | 20.7 | 37.8 | 5.8 | ... |
| Upland hardwood | 1,651.8 | 19.6 | 231.4 | 1,146.2 | 251.9 | 2.7 |
| Upland hardwood-pine | 249.1 | 2.5 | 41.4 | 180.7 | 24.5 | ... |
| Total | 1,967.7 | 24.6 | 293.5 | 1,364.7 | 282.2 | 2.7 |
| All types | 2,107.1 | 24.6 | 313.7 | 1,460.8 | 305.3 | 2.7 |
| | | | CENTRAL | | | |
| Softwood types: | | | | | | |
| Shortleaf pine | ... | ... | ... | ... | ... | ... |
| Cedar | 646.0 | 2.6 | 8.1 | 407.1 | 213.0 | 15.2 |
| Total | 646.0 | 2.6 | 8.1 | 407.1 | 213.0 | 15.2 |
| Hardwood types: | | | | | | |
| Bottomland hardwood | 71.9 | 10.5 | 15.1 | 35.0 | 11.3 | ... |
| Upland hardwood | 1,591.0 | 118.2 | 279.4 | 964.2 | 206.4 | 22.8 |
| Upland hardwood-pine | 35.9 | ... | 2.7 | 20.5 | 12.7 | ... |
| Total | 1,698.8 | 128.7 | 297.2 | 1,019.7 | 230.4 | 22.8 |
| All types | 2,344.8 | 131.3 | 305.3 | 1,426.8 | 443.4 | 38.0 |

Table 4.--Commercial forest land by degree of tree stocking and forest type, by Survey region, 1948-49

| Forest type | All stocking | Well stocked | Medium stocked | Poorly stocked | Non-stocked |
|---|---|---|---|---|---|
| | Thousand acres | | | | |
| | | | WEST | | |
| Softwood types: | | | | | |
| Shortleaf pine | 67.6 | 26.0 | 37.4 | 4.2 | ... |
| Cedar | 15.8 | 6.3 | 3.0 | 6.5 | ... |
| Total | 83.4 | 32.3 | 40.4 | 10.7 | ... |
| Hardwood types: | | | | | |
| Bottomland hardwood | 733.4 | 313.3 | 316.7 | 97.8 | 5.6 |
| Upland hardwood | 867.0 | 431.8 | 325.0 | 87.9 | 22.3 |
| Upland hardwood-pine | 103.9 | 22.3 | 59.9 | 18.4 | 3.3 |
| Total | 1,704.3 | 767.4 | 701.6 | 204.1 | 31.2 |
| All types | 1,787.7 | 799.7 | 742.0 | 214.8 | 31.2 |
| | | | WEST-CENTRAL | | |
| Softwood types: | | | | | |
| Shortleaf pine | 74.8 | 63.3 | 11.5 | ... | ... |
| Cedar | 64.6 | 8.1 | 50.9 | 5.6 | ... |
| Total | 139.4 | 71.4 | 62.4 | 5.6 | ... |
| Hardwood types: | | | | | |
| Bottomland hardwood | 66.8 | 30.6 | 30.5 | 5.7 | ... |
| Upland hardwood | 1,651.8 | 800.1 | 677.8 | 171.2 | 2.7 |
| Upland hardwood-pine | 249.1 | 181.7 | 61.7 | 5.7 | ... |
| Total | 1,967.7 | 1,012.4 | 770.0 | 182.6 | 2.7 |
| All types | 2,107.1 | 1,083.8 | 832.4 | 188.2 | 2.7 |
| | | | CENTRAL | | |
| Softwood types: | | | | | |
| Cedar | 646.0 | 199.0 | 298.3 | 133.5 | 15.2 |
| Hardwood types: | | | | | |
| Bottomland hardwood | 71.9 | 41.5 | 26.3 | 4.1 | ... |
| Upland hardwood | 1,591.0 | 700.5 | 647.0 | 220.7 | 22.8 |
| Upland hardwood-pine | 35.9 | 18.2 | 15.4 | 2.3 | ... |
| Total | 1,698.8 | 760.2 | 688.7 | 227.1 | 22.8 |
| All types | 2,344.8 | 959.2 | 987.0 | 360.6 | 38.0 |

Table 5.--Area of saw-timber stands by stand-quality and forest type, by Survey region, 1948-49

| Forest type | All qualities | Fair or better | Poor |
|---|---|---|---|
| | Thousand acres | | |
| | WEST | | |
| Softwood types: | | | |
| Shortleaf pine | 10.6 | 6.4 | 4.2 |
| Cedar | 3.0 | 3.0 | ... |
| Total | 13.6 | 9.4 | 4.2 |
| Hardwood types: | | | |
| Bottomland hardwood | 305.1 | 130.1 | 175.0 |
| Upland hardwood | 281.4 | 106.8 | 174.6 |
| Upland hardwood-pine | 8.3 | 4.1 | 4.2 |
| Total | 594.8 | 241.0 | 353.8 |
| All types | 608.4 | 250.4 | 358.0 |
| | WEST-CENTRAL | | |
| Softwood types: | | | |
| Shortleaf pine | 20.2 | 5.0 | 15.2 |
| Hardwood types: | | | |
| Bottomland hardwood | 23.2 | 2.5 | 20.7 |
| Upland hardwood | 251.0 | 46.0 | 205.0 |
| Upland hardwood-pine | 43.9 | 15.7 | 28.2 |
| Total | 318.1 | 64.2 | 253.9 |
| All types | 338.3 | 69.2 | 269.1 |
| | CENTRAL | | |
| Softwood types: | | | |
| Cedar | 10.7 | 2.6 | 8.1 |
| Hardwood types: | | | |
| Bottomland hardwood | 25.6 | 6.4 | 19.2 |
| Upland hardwood | 397.6 | 147.5 | 250.1 |
| Upland hardwood-pine | 2.7 | ... | 2.7 |
| Total | 425.9 | 153.9 | 272.0 |
| All types | 436.6 | 156.5 | 280.1 |

Table 6.--Basal area per acre of growing stock[1] and cull trees by forest-type group and Survey region, 1948-49

| Forest type | West | West-central | Central |
|---|---|---|---|
| | - - - - - - | Square feet | - - - - - - |
| Softwood types: | | | |
| Growing stock | 39.2 | 38.2 | 26.8 |
| Cull trees | 7.6 | 8.0 | 11.5 |
| Total | 46.8 | 46.2 | 38.3 |
| Bottomland hardwood: | | | |
| Growing stock | 47.9 | 51.9 | 52.2 |
| Cull trees | 29.7 | 21.5 | 25.5 |
| Total | 77.6 | 73.4 | 77.7 |
| Upland hardwood:[2] | | | |
| Growing stock | 37.5 | 38.0 | 41.7 |
| Cull trees | 15.3 | 10.7 | 14.6 |
| Total | 52.8 | 48.7 | 56.3 |
| All growing stock and cull trees | 62.7 | 49.3 | 52.0 |

1/ Includes sound, well-formed 2- and 4-inch trees.
2/ Includes upland hardwood-pine.

Table 7.--Total volume by class of timber and species, by Survey region, 1948-49

| Species | All timber 1/ | Growing stock: All trees | Growing stock: Sawlog trees: Sawlog portions | Growing stock: Sawlog trees: Tops | Growing stock: Cordwood trees | Tops and limbs | Cull trees |
|---|---|---|---|---|---|---|---|
| | - - - - - - | - - - - - - | Million cubic feet | - - - - - - | - - - - - - | - - - - - - | - - - - - - |
| | | | WEST | | | | |
| Softwood: | | | | | | | |
| Southern pines | 22.8 | 22.7 | 9.5 | 1.5 | 11.7 | ... | 0.1 |
| Cedar | 7.7 | 6.7 | 3.6 | .7 | 2.4 | ... | 1.0 |
| Cypress | 59.4 | 48.9 | 39.5 | 5.1 | 4.3 | ... | 10.5 |
| Total | 89.9 | 78.3 | 52.6 | 7.3 | 18.4 | ... | 11.6 |
| Hardwood: | | | | | | | |
| Red oaks | 288.1 | 169.9 | 117.3 | ... | 52.6 | 71.8 | 46.4 |
| White oaks | 172.2 | 102.8 | 63.6 | ... | 39.2 | 42.2 | 27.2 |
| Hickories | 114.0 | 65.7 | 40.0 | ... | 25.7 | 23.6 | 24.7 |
| Yellow-poplar | 53.3 | 37.6 | 24.4 | ... | 13.2 | 10.7 | 5.0 |
| Sweetgum | 154.6 | 101.9 | 60.4 | ... | 41.5 | 30.7 | 22.0 |
| Black and tupelo gum | 76.4 | 34.1 | 20.0 | ... | 14.1 | 12.5 | 29.8 |
| Other hardwood | 519.6 | 212.4 | 121.7 | ... | 90.7 | 71.9 | 235.3 |
| Total | 1,378.2 | 724.4 | 447.4 | ... | 277.0 | 263.4 | 390.4 |
| All species | 1,468.1 | 802.7 | 500.0 | 7.3 | 295.4 | 263.4 | 402.0 |
| | | | WEST-CENTRAL | | | | |
| Softwood: | | | | | | | |
| Southern pines | 33.4 | 33.1 | 14.9 | 2.4 | 15.8 | ... | .3 |
| Cedar | 7.7 | 7.0 | 1.6 | .3 | 5.1 | ... | .7 |
| Cypress | .5 | .5 | .3 | .1 | .1 | ... | ... |
| Total | 41.6 | 40.6 | 16.8 | 2.8 | 21.0 | ... | 1.0 |
| Hardwood: | | | | | | | |
| Red oaks | 312.3 | 210.9 | 89.6 | ... | 121.3 | 46.5 | 54.9 |
| White oaks | 352.7 | 244.8 | 89.6 | ... | 155.2 | 49.0 | 58.9 |
| Hickories | 141.7 | 100.9 | 31.3 | ... | 69.6 | 15.9 | 24.9 |
| Yellow-poplar | 47.4 | 33.1 | 19.8 | ... | 13.3 | 8.1 | 6.2 |
| Sweetgum | 40.6 | 29.2 | 12.8 | ... | 16.4 | 6.3 | 5.1 |
| Black and tupelo gum | 33.7 | 16.9 | 8.2 | ... | 8.7 | 4.4 | 12.4 |
| Other hardwood | 140.7 | 59.1 | 21.6 | ... | 37.5 | 12.8 | 68.8 |
| Total | 1,069.1 | 694.9 | 272.9 | ... | 422.0 | 143.0 | 231.2 |
| All species | 1,110.7 | 735.5 | 289.7 | 2.8 | 443.0 | 143.0 | 232.2 |

Table 7.--Total volume by class of timber and species, by Survey Region, 1948-49 (continued)

| Species | All timber 1/ | Growing stock | | | | Tops and limbs | Cull trees |
|---|---|---|---|---|---|---|---|
| | | All trees | Sawlog trees | | Cordwood trees | | |
| | | | Sawlog portions | Tops | | | |
| | Million cubic feet | | | | | | |
| | CENTRAL | | | | | | |
| Softwood: | | | | | | | |
| Southern pines | 0.1 | 0.1 | ... | ... | 0.1 | ... | ... |
| Cedar | 61.6 | 47.3 | 11.1 | 2.0 | 34.2 | ... | 14.3 |
| Total | 61.7 | 47.4 | 11.1 | 2.0 | 34.3 | ... | 14.3 |
| Hardwood: | | | | | | | |
| Red oaks | 297.4 | 184.1 | 120.7 | ... | 63.4 | 73.0 | 40.3 |
| White oaks | 241.7 | 150.6 | 83.0 | ... | 67.6 | 52.1 | 39.0 |
| Hickories | 181.3 | 132.0 | 50.6 | ... | 81.4 | 27.5 | 21.8 |
| Yellow-poplar | 101.0 | 69.7 | 43.7 | ... | 26.0 | 20.0 | 11.3 |
| Sweetgum | 29.0 | 21.8 | 10.2 | ... | 11.6 | 4.6 | 2.6 |
| Black and tupelo gum | 28.7 | 17.6 | 6.9 | ... | 10.7 | 4.0 | 7.1 |
| Other hardwood | 504.6 | 214.0 | 96.4 | ... | 117.6 | 60.6 | 230.0 |
| Total | 1,383.7 | 789.8 | 411.5 | ... | 378.3 | 241.8 | 352.1 |
| All species | 1,445.4 | 837.2 | 422.6 | 2.0 | 412.6 | 241.8 | 366.4 |

1/ Sound volume in dead trees considered salvagable is not included. This volume is as follows:

| Region | Chestnut | Other species |
|---|---|---|
| | (Million cubic feet) | |
| West | ... | 3.2 |
| West-central | 7.0 | 3.2 |
| Central | 8.1 | 5.7 |

Table 8.--Total growing stock by species and stand size, by Survey region, 1948-49

| Species | All stand sizes | Large saw timber | Small saw timber | Cordwood | Seedling and sapling | Denuded |
|---|---|---|---|---|---|---|
| | - - - - - - - | - | Million cubic feet | - | - - - - - - - | |
| | | | WEST | | | |
| Softwood: | | | | | | |
| Southern pines | 22.7 | 3.1 | 6.6 | 12.7 | 0.3 | ... |
| Cedar | 6.7 | .2 | 2.9 | 3.5 | .1 | ... |
| Cypress | 48.9 | 25.6 | 19.2 | 3.9 | .2 | ... |
| Total | 78.3 | 28.9 | 28.7 | 20.1 | .6 | ... |
| Hardwood: | | | | | | |
| Red oaks | 169.9 | 34.8 | 67.2 | 64.6 | 2.6 | .7 |
| White oaks | 102.8 | 15.8 | 45.8 | 39.1 | 2.1 | ... |
| Hickories | 65.7 | 7.3 | 28.3 | 29.0 | 1.0 | .1 |
| Yellow-poplar | 37.6 | 2.2 | 28.5 | 6.8 | .1 | ... |
| Sweetgum | 101.9 | 14.3 | 50.7 | 35.6 | 1.1 | .2 |
| Black and tupelo gum | 34.1 | 3.5 | 21.3 | 9.1 | .2 | ... |
| Other hardwoods | 212.4 | 31.5 | 104.4 | 72.9 | 3.1 | .5 |
| Total | 724.4 | 109.4 | 346.2 | 257.1 | 10.2 | 1.5 |
| All species | 802.7 | 138.3 | 374.9 | 277.2 | 10.8 | 1.5 |
| | | | WEST-CENTRAL | | | |
| Softwood: | | | | | | |
| Southern pines | 33.1 | .2 | 14.6 | 17.7 | .6 | ... |
| Cedar | 7.0 | .5 | .3 | 5.9 | .3 | ... |
| Cypress | .5 | ... | .5 | ... | ... | ... |
| Total | 40.6 | .7 | 15.4 | 23.6 | .9 | ... |
| Hardwood: | | | | | | |
| Red oaks | 210.9 | 3.9 | 66.6 | 135.3 | 5.1 | ... |
| White oaks | 244.8 | 1.7 | 68.9 | 168.7 | 5.4 | .1 |
| Hickories | 100.9 | 2.0 | 23.2 | 74.5 | 1.2 | ... |
| Yellow-poplar | 33.1 | .6 | 15.1 | 16.7 | .7 | ... |
| Sweetgum | 29.2 | 2.1 | 7.5 | 19.4 | .2 | ... |
| Black and tupelo gum | 16.9 | .1 | 7.6 | 7.9 | 1.3 | ... |
| Other hardwoods | 59.1 | 3.0 | 19.6 | 36.2 | .3 | ... |
| Total | 694.9 | 13.4 | 208.5 | 458.7 | 14.2 | .1 |
| All species | 735.5 | 14.1 | 223.9 | 482.3 | 15.1 | .1 |

Table 8.--Total growing stock by species and stand size, by Survey region, 1948-49 (continued)

| Species | All stand sizes | Large saw timber | Small saw timber | Cordwood | Seedling and sapling | Denuded |
|---|---|---|---|---|---|---|
| | Million cubic feet | | | | | |
| | | | CENTRAL | | | |
| Softwood: | | | | | | |
| Southern pines | 0.1 | ... | ... | 0.1 | ... | ... |
| Cedar | 47.3 | 1.3 | 1.7 | 41.6 | 2.7 | ... |
| Total | 47.4 | 1.3 | 1.7 | 41.7 | 2.7 | ... |
| Hardwood: | | | | | | |
| Red oaks | 184.1 | 33.4 | 55.8 | 89.9 | 5.0 | ... |
| White oaks | 150.6 | 17.5 | 50.5 | 78.6 | 3.5 | .5 |
| Hickories | 132.0 | 7.6 | 34.9 | 84.6 | 4.9 | ... |
| Yellow-poplar | 69.7 | 18.9 | 17.8 | 31.2 | 1.8 | ... |
| Sweetgum | 21.8 | 6.4 | 9.3 | 5.5 | .6 | ... |
| Black and tupelo gum | 17.6 | 3.1 | 5.0 | 9.0 | .5 | ... |
| Other hardwoods | 214.0 | 34.4 | 44.1 | 121.7 | 12.9 | .9 |
| Total | 789.8 | 121.3 | 217.4 | 420.5 | 29.2 | 1.4 |
| All species | 837.2 | 122.6 | 219.1 | 462.2 | 31.9 | 1.4 |

Table 9.--Total growing stock by species and Survey region, 1948-49

| Species | West | West-central | Central |
|---|---|---|---|
| | Million cubic feet | | |
| Softwood: | | | |
| Shortleaf pine | 21.4 | 31.6 | 0.1 |
| Virginia pine | .1 | 1.5 | ... |
| Loblolly pine | 1.2 | ... | ... |
| Cedar | 6.7 | 7.0 | 47.3 |
| Cypress | 48.9 | .5 | ... |
| Total | 78.3 | 40.6 | 47.4 |
| Hardwood: | | | |
| Black, scarlet, and southern red oaks | 101.4 | 152.5 | 125.9 |
| Cherrybark, Shumard, and northern red oaks | 39.5 | 51.0 | 48.6 |
| Water oaks | 29.0 | 7.4 | 9.6 |
| White oak | 49.8 | 157.0 | 85.0 |
| Other white oaks | 53.0 | 87.8 | 65.6 |
| Hickories | 65.7 | 100.9 | 132.0 |
| Yellow-poplar | 37.6 | 33.1 | 69.7 |
| Sweetgum | 101.9 | 29.2 | 21.8 |
| Black and tupelo gums | 34.1 | 16.9 | 17.6 |
| Elms | 42.7 | 10.5 | 39.4 |
| Soft maples | 17.1 | 5.3 | 8.3 |
| Sugar maple | 1.5 | 4.6 | 25.1 |
| Ash | 21.9 | 7.0 | 21.8 |
| Beech | 9.7 | 9.4 | 27.1 |
| Willow | 39.6 | 4.2 | 1.0 |
| Walnut | 2.6 | 7.3 | 26.6 |
| Sycamore | 15.3 | 4.9 | 6.5 |
| Hackberry | 13.8 | 1.2 | 9.8 |
| Cottonwood | 13.4 | .1 | .1 |
| Other hardwoods | 34.8 | 4.6 | 48.3 |
| Total | 724.4 | 694.9 | 789.8 |
| All species | 802.7 | 735.5 | 837.2 |

Table 10.--Average volume per acre of total growing stock by Survey region and forest type, 1948-49

| Forest type | West | West-central | Central |
|---|---|---|---|
| | - - - - | Cubic feet | - - - - |
| Softwood: | | | |
| Shortleaf pine | 379 | 455 | ... |
| Cedar | ( 1/) | 169 | 167 |
| Total | 375 | 322 | 167 |
| Hardwood: | | | |
| Bottomland hardwood | 539 | 545 | 584 |
| Upland hardwood | 406 | 343 | 425 |
| Upland hardwood-pine | 229 | 352 | 295 |
| Total | 453 | 351 | 429 |
| All types | 449 | 349 | 357 |

1/ Sample too small to be reliable.

Table 11.--Sawlog volume by species and tree diameter, by Survey region, 1948-49

| Species | All diameter classes | 10-12 inches1/ | 14-18 inches | 20-24 inches | 26 inches and up |
|---|---|---|---|---|---|
| | - - - - Million board feet - - - - - - - - | | | | |
| | | | WEST | | |
| Softwood: | | | | | |
| Southern pines | 57.0 | 31.7 | 17.8 | 7.5 | ... |
| Cedar | 21.8 | 6.7 | 15.1 | ... | ... |
| Cypress | 247.7 | 42.4 | 103.2 | 46.3 | 55.8 |
| Total | 326.5 | 80.8 | 136.1 | 53.8 | 55.8 |
| Hardwood: | | | | | |
| Red oaks | 759.5 | 122.5 | 330.7 | 153.3 | 153.0 |
| White oaks | 404.8 | 91.9 | 164.8 | 85.7 | 62.4 |
| Hickories | 253.2 | 63.3 | 120.4 | 50.8 | 18.7 |
| Yellow-poplar | 156.5 | 32.5 | 95.6 | 21.9 | 6.5 |
| Sweetgum | 384.4 | 73.9 | 205.0 | 77.9 | 27.6 |
| Black and tupelo gum | 123.8 | 38.9 | 54.0 | 30.9 | ... |
| Other hardwoods | 762.5 | 144.4 | 432.2 | 138.5 | 47.4 |
| Total | 2,844.7 | 567.4 | 1,402.7 | 559.0 | 315.6 |
| All species | 3,171.2 | 648.2 | 1,538.8 | 612.8 | 371.4 |
| | | | WEST-CENTRAL | | |
| Softwood: | | | | | |
| Southern pine | 87.1 | 59.0 | 23.8 | 4.3 | ... |
| Cedar | 8.9 | 7.9 | 1.0 | ... | ... |
| Cypress | 2.0 | .4 | 1.6 | ... | ... |
| Total | 98.0 | 67.3 | 26.4 | 4.3 | ... |
| Hardwood: | | | | | |
| Red oaks | 555.0 | 213.2 | 307.9 | 29.8 | 4.1 |
| White oaks | 549.4 | 244.9 | 278.8 | 20.9 | 4.8 |
| Hickories | 189.5 | 72.5 | 103.4 | 13.6 | ... |
| Yellow-poplar | 126.7 | 28.8 | 78.3 | 19.6 | ... |
| Sweetgum | 79.1 | 25.8 | 47.9 | 5.4 | ... |
| Black and tupelo gum | 50.7 | 14.0 | 36.7 | ... | ... |
| Other hardwoods | 134.8 | 40.2 | 63.2 | 28.0 | 3.4 |
| Total | 1,685.2 | 639.4 | 916.2 | 117.3 | 12.3 |
| All species | 1,783.2 | 706.7 | 942.6 | 121.6 | 12.3 |

Table 11.--Sawlog volume by species and tree diameter, by survey region, 1948-49 (continued)

| Species | All diameter classes | 10-12 inches[1] | 14-18 inches | 20-24 inches | 26 inches and up |
|---|---|---|---|---|---|
| | - - - - Million board feet - - - - | | | | |
| | | | CENTRAL | | |
| Softwood: | | | | | |
| Cedar | 61.1 | 40.5 | 20.6 | ... | ... |
| Hardwood: | | | | | |
| Red oaks | 779.5 | 156.9 | 372.7 | 208.1 | 41.8 |
| White oaks | 524.8 | 119.0 | 283.8 | 110.1 | 11.9 |
| Hickories | 313.6 | 84.2 | 160.9 | 62.2 | 6.3 |
| Yellow-poplar | 284.8 | 55.2 | 157.4 | 64.2 | 8.0 |
| Sweetgum | 63.8 | 17.4 | 43.7 | 2.7 | ... |
| Black and tupelo gums | 43.0 | 11.2 | 26.8 | 5.0 | ... |
| Other hardwood | 613.8 | 127.5 | 315.9 | 120.4 | 50.0 |
| Total | 2,623.3 | 571.4 | 1,361.2 | 572.7 | 118.0 |
| All species | 2,684.4 | 611.9 | 1,381.8 | 572.7 | 118.0 |

[1] Hardwood sawlog volume not tallied in trees under 11.0 inches d.b.h.

Table 12.--Sawlog volume by species and stand size, by Survey region, 1948-49

| Species | All stand sizes | Large saw timber | Small saw timber | Cordwood | Seedling and sapling | Denuded |
|---|---|---|---|---|---|---|
| | - - - | - - - - | Million board feet | - - - - | - - - | |
| | | | | WEST | | |
| Softwood: | | | | | | |
| Southern pines | 57.0 | 18.2 | 24.7 | 13.9 | 0.2 | ... |
| Cedar | 21.8 | .6 | 13.5 | 7.4 | .3 | ... |
| Cypress | 247.7 | 145.6 | 89.1 | 13.0 | ... | ... |
| Total | 326.5 | 164.4 | 127.3 | 34.3 | .5 | ... |
| Hardwood: | | | | | | |
| Red oaks | 759.5 | 206.3 | 368.0 | 174.6 | 9.0 | 1.6 |
| White oaks | 404.8 | 92.3 | 202.1 | 105.3 | 5.1 | ... |
| Hickories | 253.2 | 46.4 | 123.8 | 78.3 | 4.7 | ... |
| Yellow-poplar | 156.5 | 13.9 | 124.0 | 17.9 | .7 | ... |
| Sweetgum | 384.4 | 84.0 | 236.8 | 56.8 | 5.2 | 1.6 |
| Black and tupelo gum | 123.8 | 16.3 | 82.9 | 23.7 | .9 | ... |
| Other hardwoods | 762.5 | 163.4 | 402.3 | 185.1 | 11.7 | ... |
| Total | 2,844.7 | 622.6 | 1,539.9 | 641.7 | 37.3 | 3.2 |
| All species | 3,171.2 | 787.0 | 1,667.2 | 676.0 | 37.8 | 3.2 |
| | | | | WEST-CENTRAL | | |
| Softwood: | | | | | | |
| Southern pines | 87.1 | .6 | 52.1 | 31.5 | 2.9 | ... |
| Cedar | 8.9 | ... | 1.3 | 7.6 | ... | ... |
| Cypress | 2.0 | ... | 2.0 | ... | ... | ... |
| Total | 98.0 | .6 | 55.4 | 39.1 | 2.9 | ... |
| Hardwood: | | | | | | |
| Red oaks | 555.0 | 19.3 | 264.5 | 254.7 | 16.5 | ... |
| White oaks | 549.4 | 11.3 | 238.7 | 283.9 | 15.1 | .4 |
| Hickories | 189.5 | 12.3 | 59.6 | 116.6 | 1.0 | ... |
| Yellow-poplar | 126.7 | 1.8 | 76.3 | 45.7 | 2.9 | ... |
| Sweetgum | 79.1 | 12.3 | 25.7 | 39.7 | 1.4 | ... |
| Black and tupelo gum | 50.7 | ... | 20.7 | 27.3 | 2.7 | ... |
| Other hardwoods | 134.8 | 15.2 | 56.4 | 62.1 | 1.1 | ... |
| Total | 1,685.2 | 72.2 | 741.9 | 830.0 | 40.7 | .4 |
| All species | 1,783.2 | 72.8 | 797.3 | 869.1 | 43.6 | .4 |

Table 12.--Sawlog volume by species and stand size, by Survey region, 1948-49 (continued)

| Species | All stand sizes | Large saw timber | Small saw timber | Cordwood | Seedling and sapling | Denuded |
|---|---|---|---|---|---|---|
| | - - - - - | - | Million board feet | - | - - - - - | |
| | | | CENTRAL | | | |
| Softwood: | | | | | | |
| Cedar | 61.1 | 1.1 | 7.6 | 50.3 | 2.1 | ... |
| Hardwood: | | | | | | |
| Red oaks | 779.5 | 204.0 | 261.0 | 288.2 | 26.3 | ... |
| White oaks | 524.8 | 101.5 | 193.6 | 211.4 | 15.5 | 2.8 |
| Hickories | 313.6 | 30.4 | 115.9 | 153.6 | 13.7 | ... |
| Yellow-poplar | 284.8 | 110.9 | 84.3 | 86.4 | 3.2 | ... |
| Sweetgum | 63.8 | 18.9 | 28.5 | 16.0 | .4 | ... |
| Black and tupelo gum | 43.0 | 5.7 | 18.4 | 16.2 | 2.7 | ... |
| Other hardwoods | 613.8 | 151.5 | 172.8 | 246.1 | 38.2 | 5.2 |
| Total | 2,623.3 | 622.9 | 874.5 | 1,017.9 | 100.0 | 8.0 |
| All species | 2,684.4 | 624.0 | 882.1 | 1,068.2 | 102.1 | 8.0 |

Table 13.--Sawlog volume by species and Survey region, 1948-49

| Species | West | West-central | Central |
|---|---|---|---|
| | - - - Million board feet - - - | | |
| Softwood: | | | |
| Shortleaf pine | 56.3 | 83.4 | ... |
| Virginia pine | .7 | 3.7 | ... |
| Cedar | 21.8 | 8.9 | 61.1 |
| Cypress | 247.7 | 2.0 | ... |
| Total | 326.5 | 98.0 | 61.1 |
| Hardwood: | | | |
| Black, scarlet, and southern red oaks | 487.2 | 406.4 | 549.2 |
| Cherrybark, Shumard, and northern red oak | 138.2 | 134.2 | 204.8 |
| Water oaks | 134.1 | 14.4 | 25.5 |
| White oak | 187.2 | 400.1 | 290.8 |
| Other white oaks | 217.6 | 149.3 | 234.0 |
| Hickories | 253.2 | 189.5 | 313.6 |
| Yellow-poplar | 156.5 | 126.7 | 284.8 |
| Sweetgum | 384.4 | 79.1 | 63.8 |
| Black and tupelo gum | 123.8 | 50.7 | 43.0 |
| Elms | 144.6 | 16.0 | 123.4 |
| Soft maples | 56.5 | 13.6 | 21.1 |
| Sugar maple | 7.1 | 16.3 | 50.9 |
| Ash | 52.8 | 13.8 | 60.9 |
| Beech | 40.7 | 25.8 | 129.9 |
| Willow | 157.8 | 4.4 | 1.4 |
| Walnut | 12.5 | 10.8 | 74.8 |
| Sycamore | 76.3 | 20.9 | 32.7 |
| Hackberry | 42.2 | 2.7 | 21.3 |
| Cottonwood | 78.9 | .5 | ... |
| Other hardwoods | 93.1 | 10.0 | 97.4 |
| Total | 2,844.7 | 1,685.2 | 2,623.3 |
| All species | 3,171.2 | 1,783.2 | 2,684.4 |

Table 14.--Average sawlog volume per acre by Survey region and forest type, 1948-49

| Forest type | West | West-central | Central |
|---|---|---|---|
| | Board feet | | |
| Softwood: | | | |
| Shortleaf pine | 740 | 932 | ... |
| Cedar | (1) | 269 | 358 |
| Total | 893 | 625 | 358 |
| Hardwood: | | | |
| Bottomland hardwood | 2,201 | 1,329 | 1,832 |
| Upland hardwood | 1,622 | 841 | 1,440 |
| Upland hardwood-pine | 731 | 879 | 847 |
| Total | 1.817 | 862 | 1,444 |
| All types | 1,774 | 846 | 1,145 |

[1] Sample too small to be reliable.

Table 15.--Sawlog volume by softwood tree grade, hardwood log grade, and stand quality, by Survey region, 1948-49

| Species group | All grades | Grade 1 | Grade 2 | Grade 3 | |
|---|---|---|---|---|---|
| | | | | In fair and better stands | In poor stands |
| | Million board feet | | | | |
| | | | WEST | | |
| Softwood | 326.5 | 73.5 | 97.0 | 31.5 | 124.5 |
| Hardwood | 2,844.7 | 352.7 | 421.0 | 650.3 | 1,420.7 |
| Total | 3,171.2 | 426.2 | 518.0 | 681.8 | 1,545.2 |
| | | | WEST-CENTRAL | | |
| Softwood | 98.0 | 25.2 | 21.5 | 10.4 | 40.9 |
| Hardwood | 1,685.2 | 42.1 | 239.3 | 164.2 | 1,239.6 |
| Total | 1,783.2 | 67.3 | 260.8 | 174.6 | 1,280.5 |
| | | | CENTRAL | | |
| Softwood | 61.1 | [1] 61.1 | ... | ... | ... |
| Hardwood | 2,623.3 | 249.2 | 490.6 | 395.5 | 1,488.0 |
| Total | 2,684.4 | 310.3 | 490.6 | 395.5 | 1,488.0 |

[1] Cedar is the only species represented here. All cedar sawlog trees were graded as No. 1.

## Definition of Terms

### Forest Land

Forest land. Land which bears forest growth, or land from which the forest has been removed and which has not been put to other use. Each tract classed as forest is at least one acre in size.

Commercial forest land. Forest land bearing, or capable of bearing, timber of commercial quantity and quality, and not withdrawn from commercial timber use.

Reserved-commercial forest land. Forest land in public parks or preserves which qualifies as commercial forest land except that it is withdrawn from commercial timber use through statute, ordinance, or administrative order.

### Tree Species

Softwoods. Pine, eastern redcedar, and cypress.

Hardwoods. Any broadleaved species.

### Forest Type

Forest type is determined only from dominant and codominant growing stock and dominant and codominant smaller sound trees of good form.

Shortleaf pine. Stands in which pines comprise at least 25 percent of the trees.

Cedar. Stands in which eastern redcedar comprises at least 25 percent of the trees.

Bottomland hardwood. Stands in which bottomland hardwoods and cypress comprise 76 percent or more of the trees.

Upland hardwood. Stands in which upland hardwoods comprise 76 percent or more of the trees, and no pine is present.

Upland hardwood-pine. Stands in which upland hardwoods comprise 76 percent or more of the trees, and some pine is present.

## Class of Timber

Growing stock. Sawlog growing stock is the sawlog portion of sawlog trees. Total growing stock includes sawlog growing stock, and upper stems of softwood sawlog trees and entire stems of cordwood trees to a minimum diameter of 4 inches inside bark.

Sawlog tree. A live, merchantable softwood 9.0 inches or larger in d.b.h., or a live, merchantable hardwood 11.0 inches or larger in d.b.h. To be merchantable, the tree must have at least a merchantable 12-foot butt log or 50 percent of its gross volume in merchantable logs.

Cordwood tree. A live tree 5.0 inches or larger in d.b.h., but smaller than sawlog size, which would become a sawlog tree if it should grow to sawlog size.

Cull tree. A live tree 5.0 inches or larger in d.b.h., which because of decay or sound defect fails to meet the specifications for a cordwood or sawlog tree.

Tops and limbs. Upper stems and limbs of hardwood sawlog trees between the top sawlog and a minimum diameter of 4 inches inside bark.

## Stand-size Class

Large saw timber. Stands having a net volume of at least 1,500 board feet per acre in sawlog trees and at least half of this volume in softwoods 15.0 inches d.b.h. and larger, and hardwoods 17.0 inches d.b.h. and larger.

Small saw timber. Stands which do not meet the specifications for large saw timber but which do contain a net volume of at least 1,500 board feet per acre in sawlog trees.

Cordwood. Stands below saw-timber specifications, with at least 10 percent of the growing space occupied by growing stock, and with at least 5 percent of the growing space occupied by cordwood trees.

Seedling and sapling. Stands that do not meet saw-timber and cordwood specifications in which at least 10 percent of the growing space is occupied by growing stock and smaller sound trees of commercial species, and with at least 5 percent of the space occupied by seedlings and saplings.

Denuded. Commercial forest land which does not qualify for any other stand-size class.

## Tree Stocking

Degree of stocking is determined by the ratio of the actual number of growing-stock and smaller sound trees of good form in the stand to the number of trees of the same size required to occupy the site fully (for best growth). Under this criterion, stands are well stocked when the percentage of full stocking is 70 or above, medium stocked when the percentage is 40 to 69, poorly stocked when the percentage is 10 to 39, and nonstocked when the percentage is under 10.

## Volume and Basal Area

Sawlog volume. Net volume in merchantable sawlogs in sawlog trees, measured by the International 1/4-inch log rule.

Total volume. Volume of sound, usable wood in stems of softwoods and stems and branches of hardwoods between stump and minimum top diameter of 4 inches inside bark, measured in cubic feet.

Basal area. Cross-sectional area of trees at breast height, measured in square feet.

## Diameter

D.b.h. (diameter breast high). Tree diameter in inches, outside bark, measured at 4½ feet above ground.

Diameter class. Each 2-inch diameter class includes diameters 1.0 inch below and 0.9 inch above the stated midpoint. E.g., the 12-inch class includes trees 11.0 up to and including 12.9 inches.

## Log and Tree Grade

Tree grades for softwoods:

Grade 1 (smooth[1] trees). Not less than 20 feet of clear bole and at least 40 percent of the merchantable length clear of limbs and knots in sections not less than 8 feet in length. All cedar sawlog trees were graded as No. 1.

Grade 2 (limby trees). Not less than 12 feet of clear bole and 25 to 39 percent of the merchantable length clear of limbs and knots in sections not less than 8 feet in length.

Grade 3 (rough trees). Merchantable trees below grade-2 specifications.

---

[1] Except as noted in the case of cedar.

Log grades for hardwoods:[1]

Grade 1. Smooth, generally clear logs which yield at least one-half of their volume in higher grades of lumber.

Grade 2. Logs of average clearness which yield from one-third to one-half of their volume in higher grades of lumber.

Grade 3. Small logs or logs of less than average clearness which yield less than one-third of their volume in higher grades of lumber, or sound, straight logs with many small defects which make them suitable only for ties and timbers.

## Stand Quality

Fair and better. A stand in which grade 2 or better hardwood logs or softwood trees are present.

Poor. A stand in which no grade 2 hardwood logs or softwood trees are present.

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[1] For detailed external specifications of log grades used, see "Interim Sawlog Grades for Southern Hardwoods," Southern Forest Experiment Station, 9 pp., January 1948. (Revised).

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# TREE DISTRIBUTION
## IN MISSISSIPPI

By
Herbert S. Sternitzke and William A. Duerr

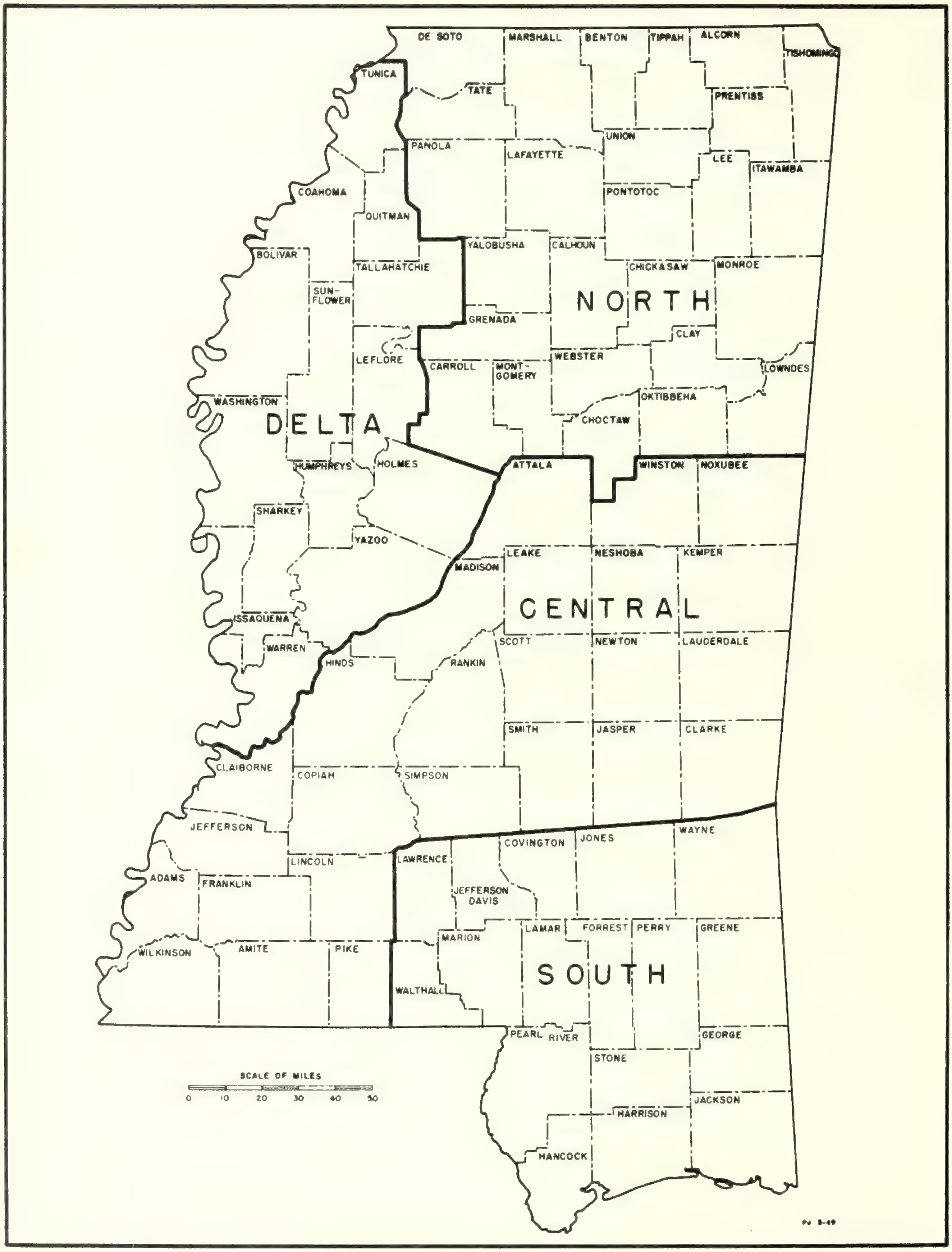
A REPORT OF THE SOUTHERN FOREST SURVEY
William A. Duerr, In Charge

SOUTHERN FOREST EXPERIMENT STATION
Charles A. Connaughton, Director
New Orleans, La.

FOREST SERVICE, U. S. DEPT. OF AGRICULTURE

# THE SOUTHERN FOREST SURVEY

The Southern Forest Survey, an activity of the Southern Forest Experiment Station, covers the seven States of the Station's territory--Alabama, Arkansas, Louisiana, Mississippi, Oklahoma, Tennessee, and Texas. This Survey is a part of the nation-wide Forest Survey authorized by the McSweeney-McNary Forest Research Act of 1928. Its five-fold purpose is (1) to take inventory of the supply of standing timber and other forest products; (2) to ascertain the rate at which this supply is being increased through growth; (3) to determine the rate at which this supply is being diminished through industrial and local use, and by fire, insects, disease, and other agencies; (4) to estimate the present requirements and the probable future trend in the requirements for timber and other forest products; and (5) to correlate these findings with existing and anticipated economic conditions, in order that policies may be formulated for the effective use of lands suitable for forest production.



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## Scientific Names of Tree Species Mapped[1]

| | | Figure |
|---|---|---|
| Ash | | |
| Green | *Fraxinus pennsylvanica* var. *lanceolata* | 14, 17 |
| White | *F. americana* | 14, 17 |
| Beech | *Fagus grandifolia* var. *caroliniana* | 15, 17 |
| Blackgum | *Nyssa sylvatica* | 13, 18 |
| Hickory | *Carya* spp. | 11, 17 |
| Oak | | |
| Black | *Quercus velutina* | 9, 17 |
| Cherrybark | *Q. falcata* var. *pagodaefolia* | 9, 17 |
| Chinquapin | *Q. muehlenbergii* | 7, 17 |
| Cow | *Q. prinus* | 7, 17 |
| Diamondleaf | *Q. obtusa* | 8, 17 |
| Laurel | *Q. laurifolia* | 8, 17 |
| Northern red | *Q. borealis* | 9, 17 |
| Nuttall | *Q. nuttallii* | 8, 17 |
| Post | *Q. stellata* | 7, 17 |
| Scarlet | *Q coccinea* | 9, 17 |
| Shumard | *Q. shumardii* | 9, 17 |
| Southern red | *Q. falcata* | 9, 17 |
| Water | *Q. nigra* | 8, 17 |
| White | *Q. alba* | 7, 17 |
| Willow | *Q. phellos* | 8, 17 |
| Pecan | | |
| Sweet | *Carya illinoensis* | 10, 17 |
| Bitter (water hickory) | *C. aquatica* | 10, 17 |
| Pine | | |
| Loblolly | *Pinus taeda* | 2, 6 |
| Longleaf | *P. palustris* | 4, 6 |
| Shortleaf | *P. echinata* | 3, 6 |
| Slash | *P. caribaea* | 5, 6 |
| Sweetgum | *Liquidambar styraciflua* | 12, 18 |
| Yellow-poplar | *Liriodendron tulipifera* | 16, 18 |

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[1] Scientific names according to *Check list of the native and naturalized trees of the United States, including Alaska*, U. S. Forest Service, 1944.

# TREE DISTRIBUTION IN MISSISSIPPI

Herbert S. Sternitzke and William A. Duerr
Southern Forest Experiment Station

This report describes, in the form of maps, the geographic distribution of 17 selected tree species and groups of species within the State of Mississippi. Only species of commercial value are considered, and only trees of merchantable form. Because these maps indicate the relative concentrations as well as the approximate range of such trees, they should be of value both to the forester planning timber management and the wood-user seeking raw material. Conventional tree-range maps lack sufficient detail to be of much value on a State basis, and indicate only the botanical or commercial range, not the density of occurrence of merchantable timber.

The maps are based upon data gathered on the Southern Forest Survey in 1946-48.

## How the Maps Were Made

The Southern Forest Survey established 4,390 sample-plot locations in the form of a square grid covering the State of Mississippi. At each forest location, a record was taken of the trees of each species on two quarter-acre plots 5 chains apart. All softwoods 7.0 inches d.b.h. and larger were tallied, and all hardwoods 9.0 inches d.b.h. and larger. Smaller trees, down to 5.0 inches d.b.h., were tallied on fortieth-acre plots concentric with the main plots.

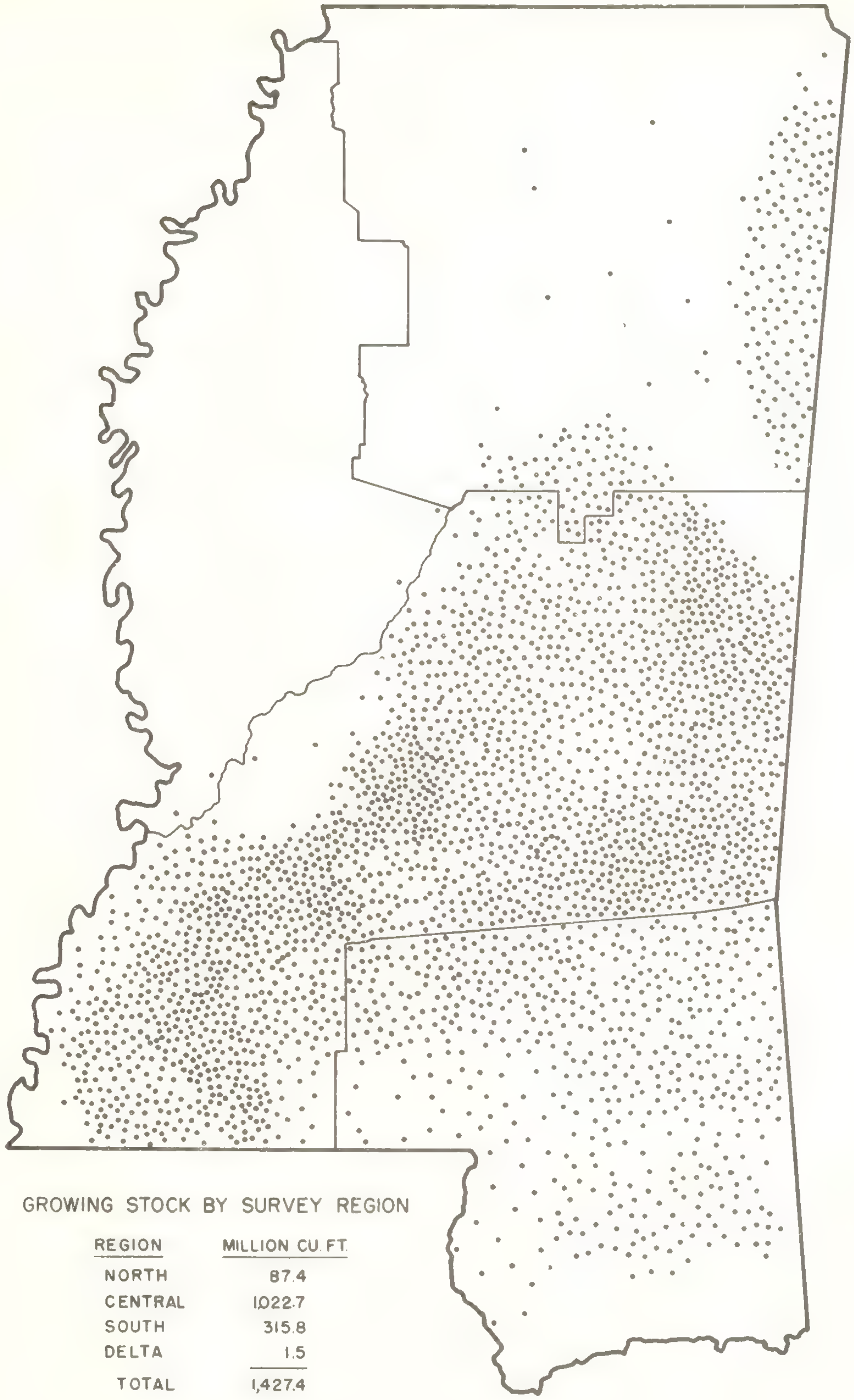
For each of the 17 species or species groups, a map was made showing the number of growing-stock trees (those now or prospectively merchantable for sawlogs) recorded on the plots at each location. In most cases all trees 5.0 inches d.b.h. and larger were shown; on a few maps, 15 or 17 inches was taken as the minimum to bring out the distribution of large saw timber. After the numbers of trees had been mapped, broad zones of approximately uniform tree density were blocked off. Finally, the total number of trees recorded within each zone was shown by dots distributed uniformly throughout the zone. Under this scheme, the final maps generalize local concentrations or absence of timber--conditions that the ground sampling was too light to measure closely.

## Species Distribution

The longleaf-slash pine type, which characterizes the lower Coastal Plain, dominates 2.2 million acres of Mississippi's 16.5 million acres of forest. Extending north from the coastal region, the loblolly-shortleaf pine type covers 5.1 million acres; over much of this area hardwoods--oaks, hickories, sweetgum, blackgum, and others--are mixed with the pine. The area classed as upland hardwood and upland hardwood-pine types has more than doubled in the last 14 years and now occupies over 5.7 million acres. Bottomland hardwoods, primarily in the Delta and secondarily along rivers and streams throughout the State, aggregate 3.4 million acres. (For more detailed forest statistics, see Forest Statistics for Mississippi, Forest Survey Release 59, Southern Forest Experiment Station.)

Loblolly pine, the most abundant softwood species, occurs in greatest density in central Mississippi. Shortleaf pine, which is also widely distributed, has its center of concentration farther north. Both longleaf and slash pines, which dominate the southern end of the State, are of infrequent occurrence elsewhere.

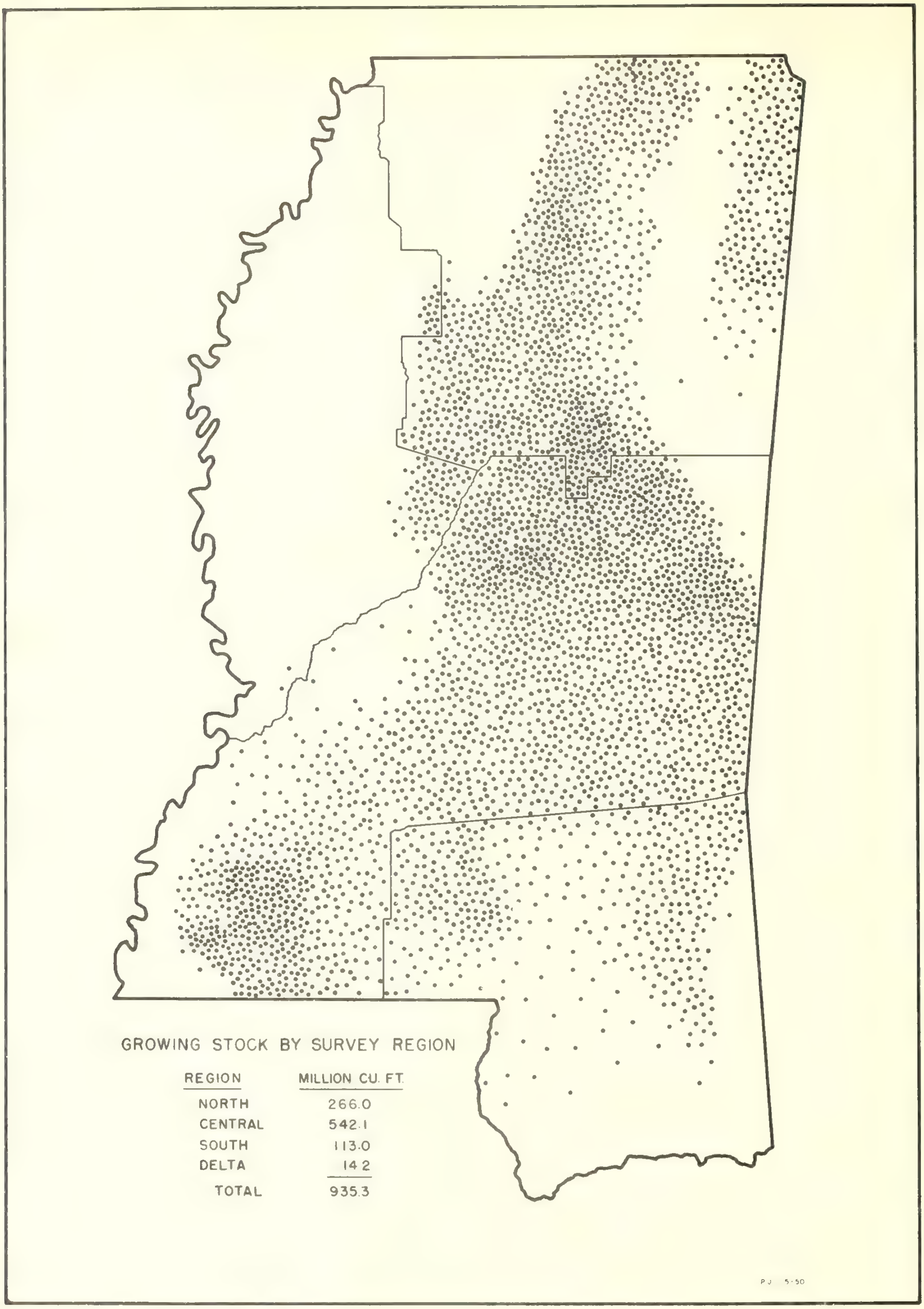
Among the hardwood species, the oaks greatly exceed all others both in volume and in extent of distribution. Hickory, sweetgum, and blackgum are also broadly distributed, the latter two attaining their best development in the bottomlands of the Mississippi River and in secondary waterways. Yellow-poplar is thinly but widely scattered east of the Delta. Other commercial species such as ash, beech, and pecan have a more restricted distribution, as indicated on the respective maps.



GROWING STOCK BY SURVEY REGION

| REGION | MILLION CU. FT. |
|---|---|
| NORTH | 87.4 |
| CENTRAL | 1,022.7 |
| SOUTH | 315.8 |
| DELTA | 1.5 |
| TOTAL | 1,427.4 |

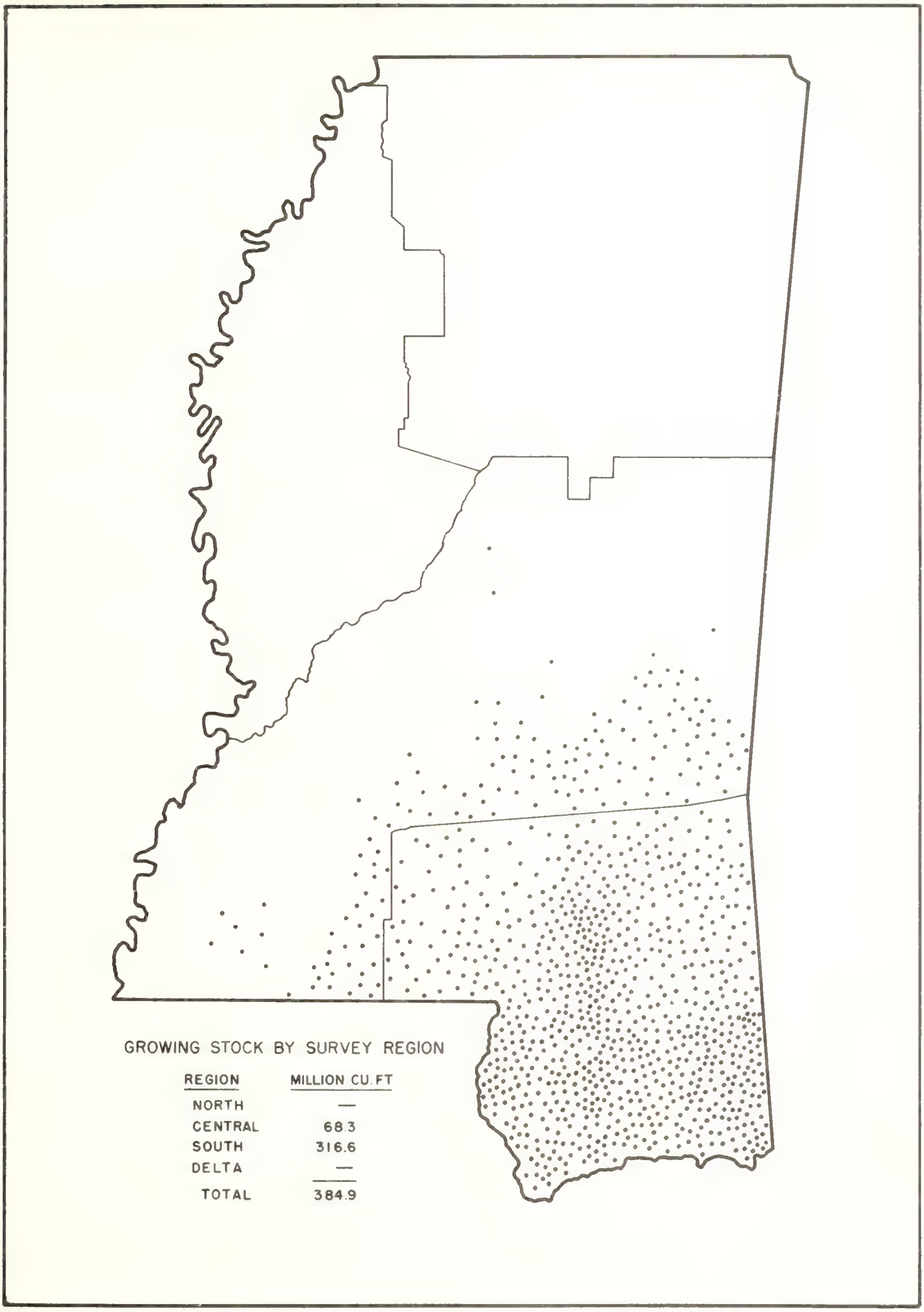
Figure 2.--Distribution of loblolly pine in Mississippi. (Each dot represents three trees measured on Forest Survey plots.)



GROWING STOCK BY SURVEY REGION

| REGION | MILLION CU. FT. |
|---|---|
| NORTH | 266.0 |
| CENTRAL | 542.1 |
| SOUTH | 113.0 |
| DELTA | 14.2 |
| TOTAL | 935.3 |

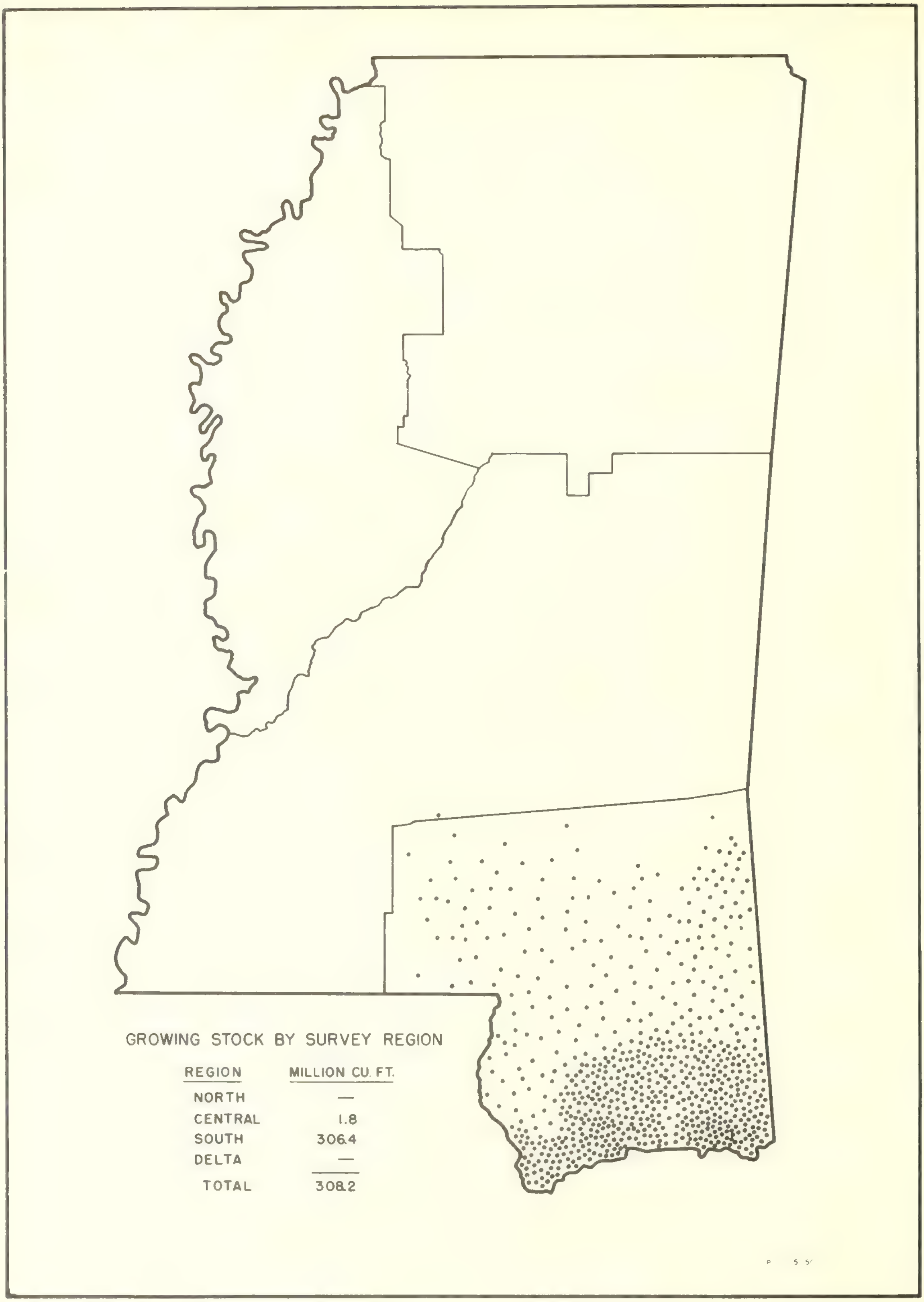
Figure 3.--Distribution of shortleaf pine in Mississippi. (Each dot represents two trees measured on Forest Survey plots.)



GROWING STOCK BY SURVEY REGION

| REGION | MILLION CU. FT |
|---|---|
| NORTH | — |
| CENTRAL | 68.3 |
| SOUTH | 316.6 |
| DELTA | — |
| TOTAL | 384.9 |

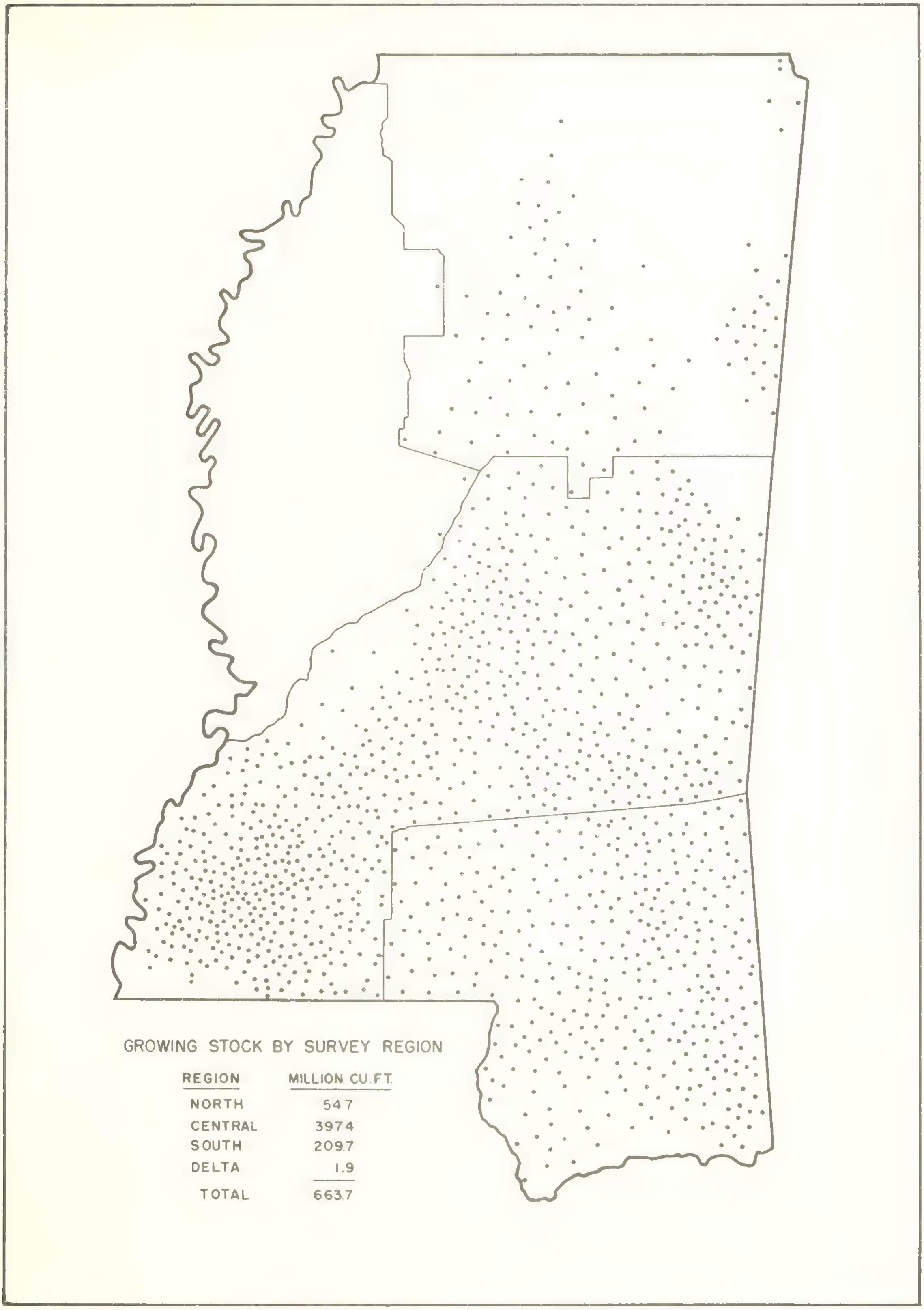
Figure 4.--Distribution of longleaf pine in Mississippi. (Each dot represents three trees measured on Forest Survey plots.)



GROWING STOCK BY SURVEY REGION

| REGION | MILLION CU. FT. |
|---|---|
| NORTH | — |
| CENTRAL | 1.8 |
| SOUTH | 306.4 |
| DELTA | — |
| TOTAL | 308.2 |

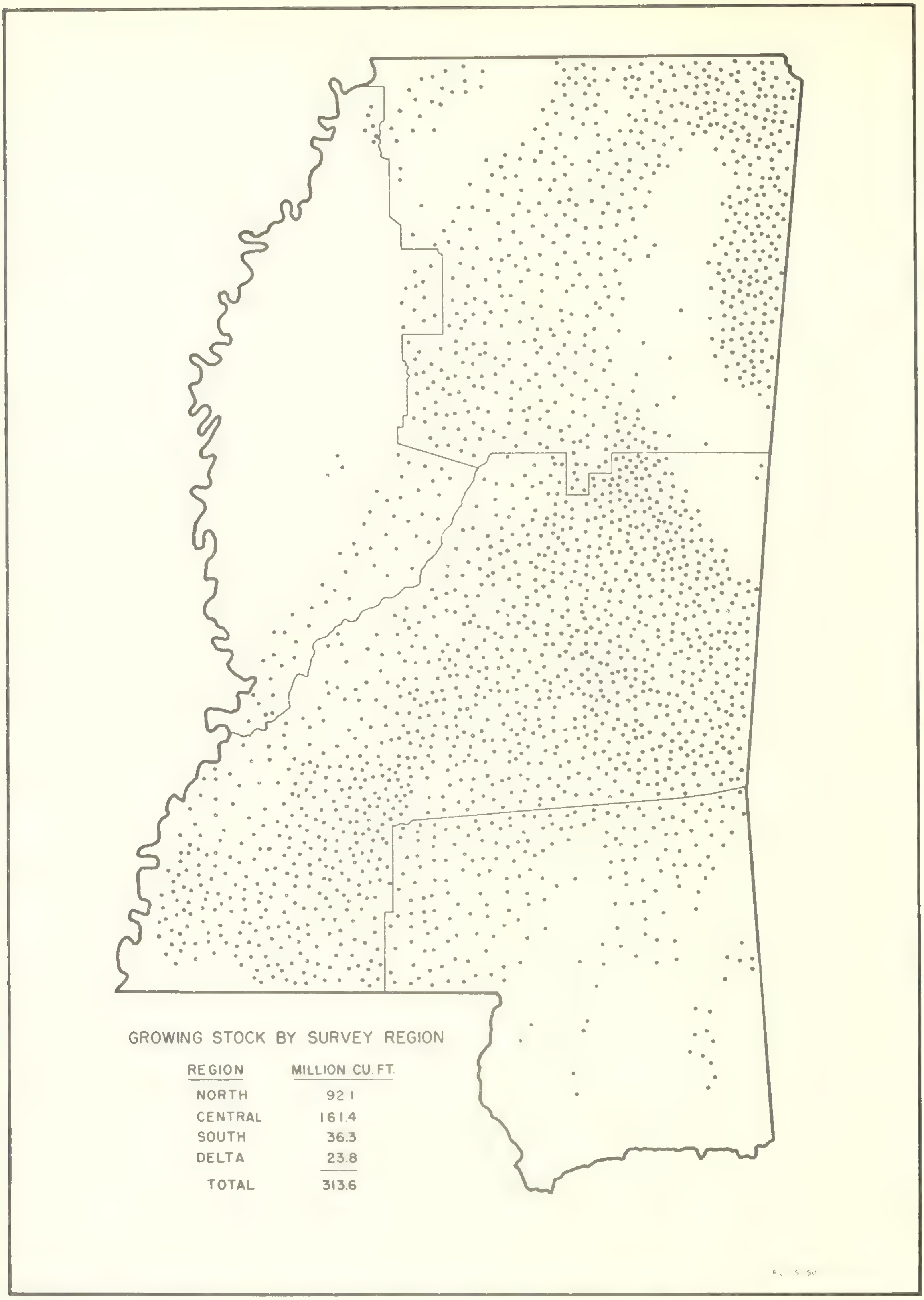
Figure 5.--Distribution of slash pine in Mississippi. (Each dot represents three trees measured on Forest Survey plots.)



GROWING STOCK BY SURVEY REGION

| REGION | MILLION CU.FT. |
|---|---|
| NORTH | 54.7 |
| CENTRAL | 397.4 |
| SOUTH | 209.7 |
| DELTA | 1.9 |
| TOTAL | 663.7 |

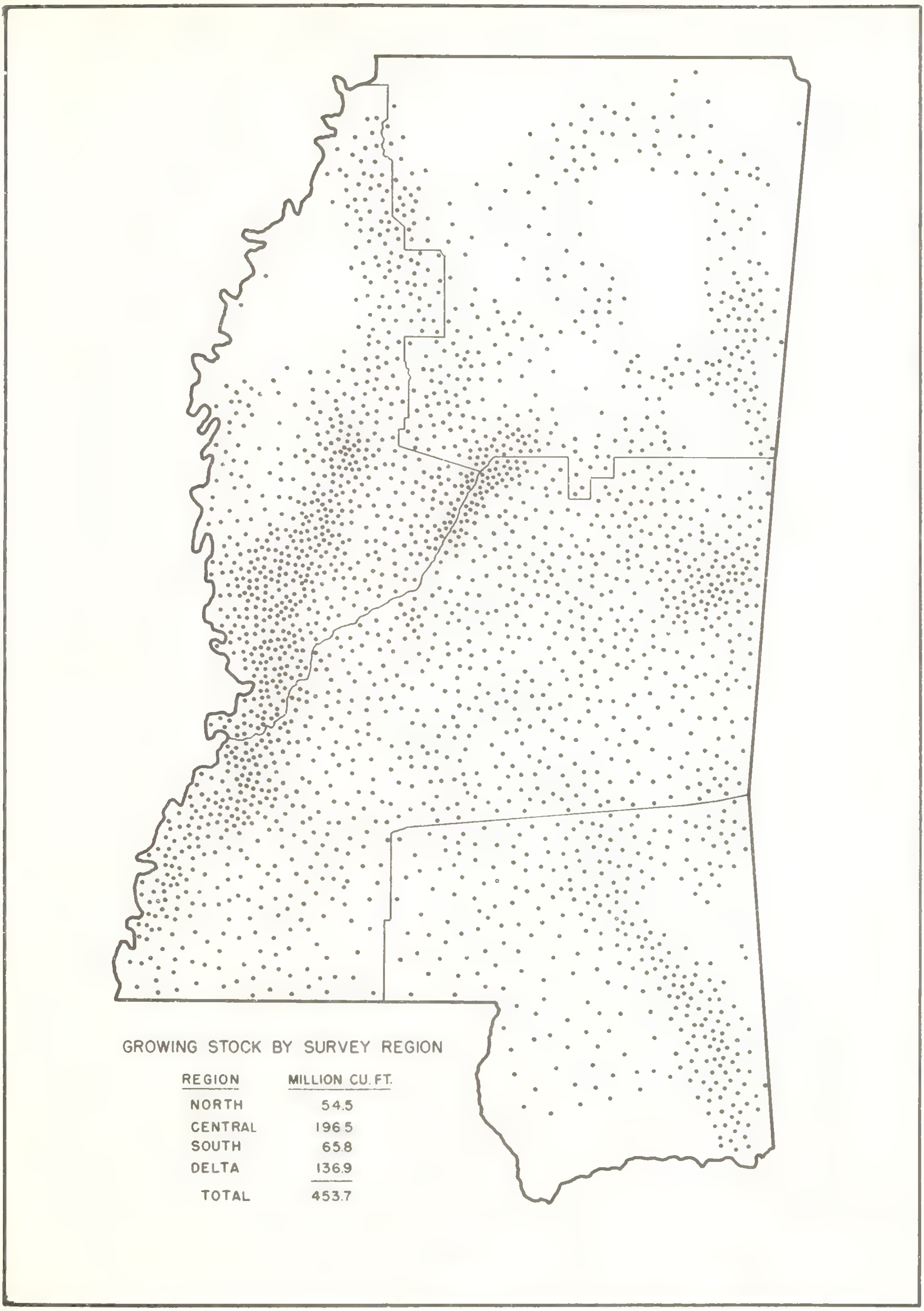
Figure 6.--Distribution of large pine saw timber in Mississippi. (Each dot represents one tree, 15 inches d.b.h. or larger, measured on Forest Survey plots.)



GROWING STOCK BY SURVEY REGION

| REGION | MILLION CU. FT. |
|---|---|
| NORTH | 92.1 |
| CENTRAL | 161.4 |
| SOUTH | 36.3 |
| DELTA | 23.8 |
| TOTAL | 313.6 |

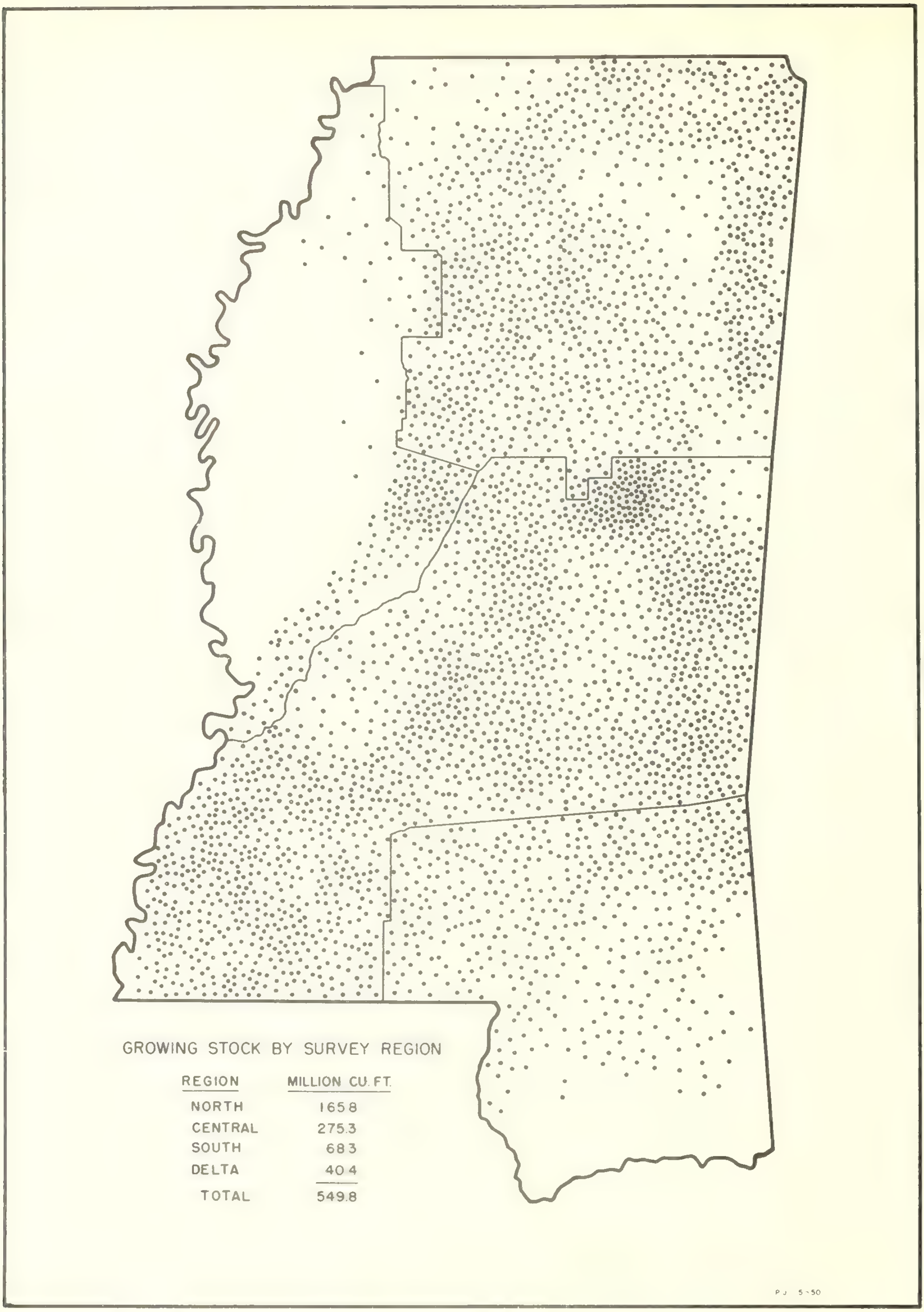
Figure 7.--Distribution of better-grade white oak species in Mississippi. (Each dot represents one tree measured on Forest Survey plots.)



GROWING STOCK BY SURVEY REGION

| REGION | MILLION CU. FT. |
|---|---|
| NORTH | 54.5 |
| CENTRAL | 196.5 |
| SOUTH | 65.8 |
| DELTA | 136.9 |
| TOTAL | 453.7 |

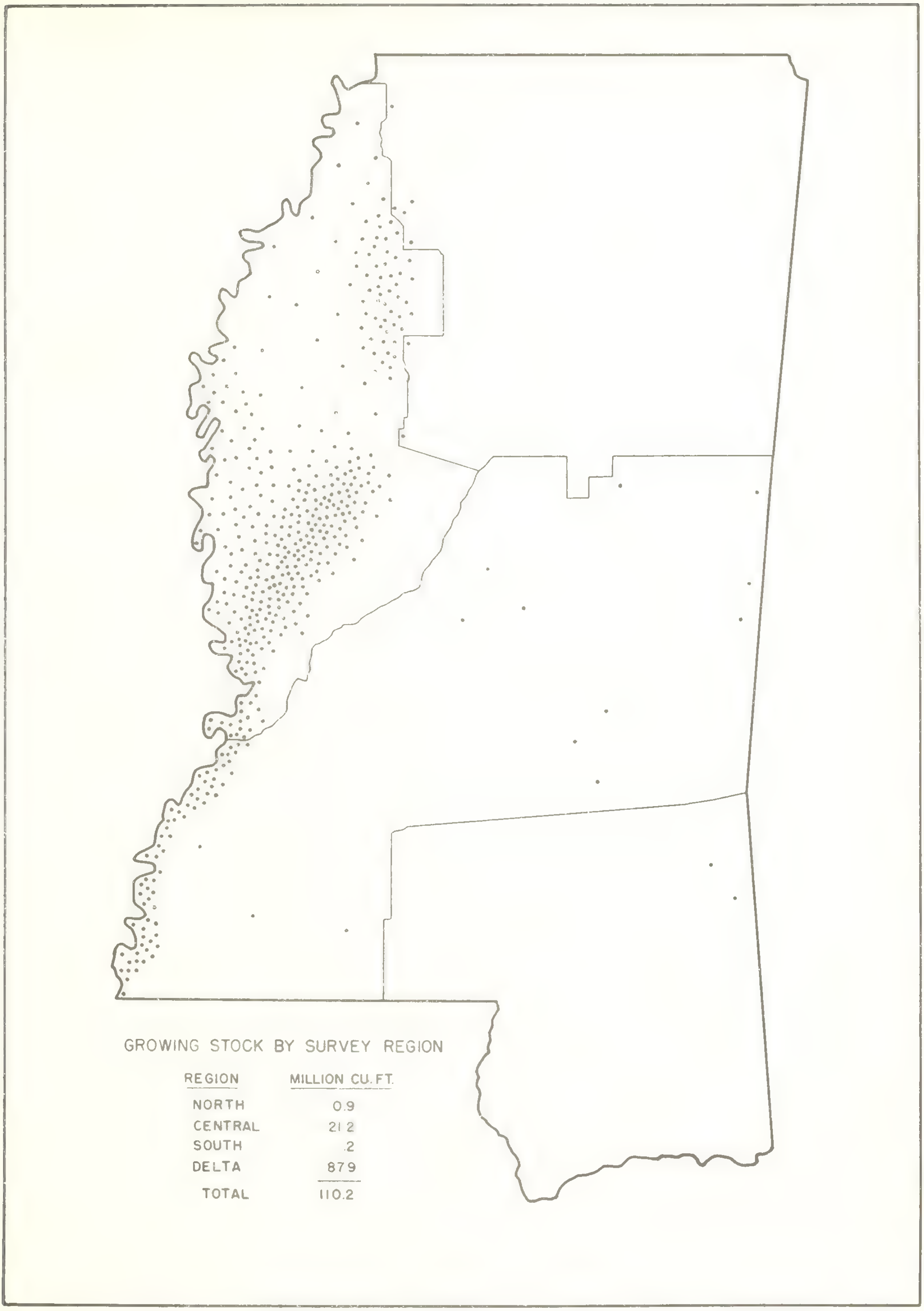
Figure 8.--Distribution of water oaks in Mississippi. (Each dot represents one tree measured on Forest Survey plots.)



GROWING STOCK BY SURVEY REGION

| REGION | MILLION CU. FT. |
|---|---|
| NORTH | 165.8 |
| CENTRAL | 275.3 |
| SOUTH | 68.3 |
| DELTA | 40.4 |
| TOTAL | 549.8 |

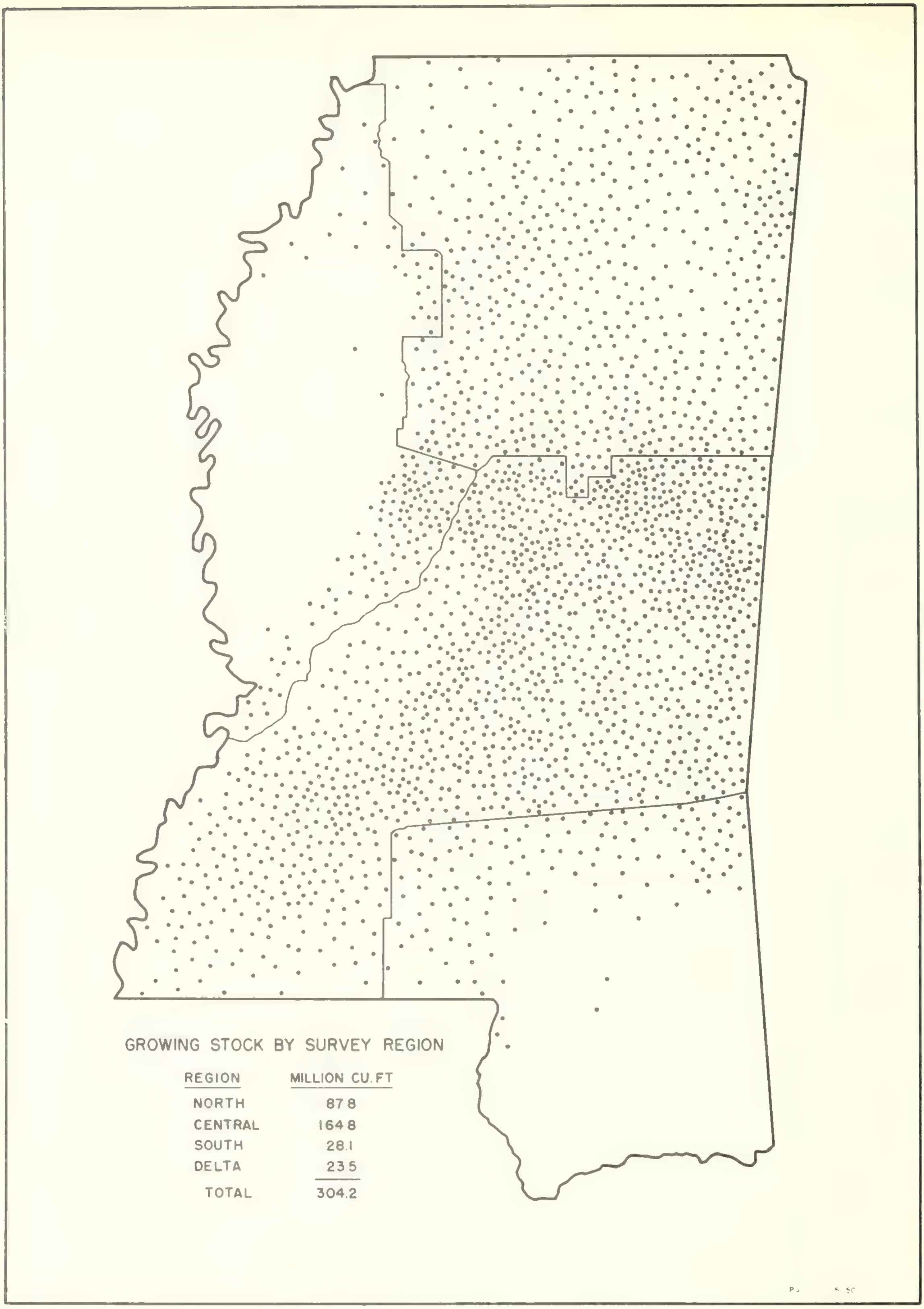
Figure 9.--Distribution of red oaks in Mississippi. (Each dot represents one tree measured on Forest Survey plots.)



GROWING STOCK BY SURVEY REGION

| REGION | MILLION CU. FT. |
|---|---|
| NORTH | 0.9 |
| CENTRAL | 21.2 |
| SOUTH | .2 |
| DELTA | 87.9 |
| TOTAL | 110.2 |

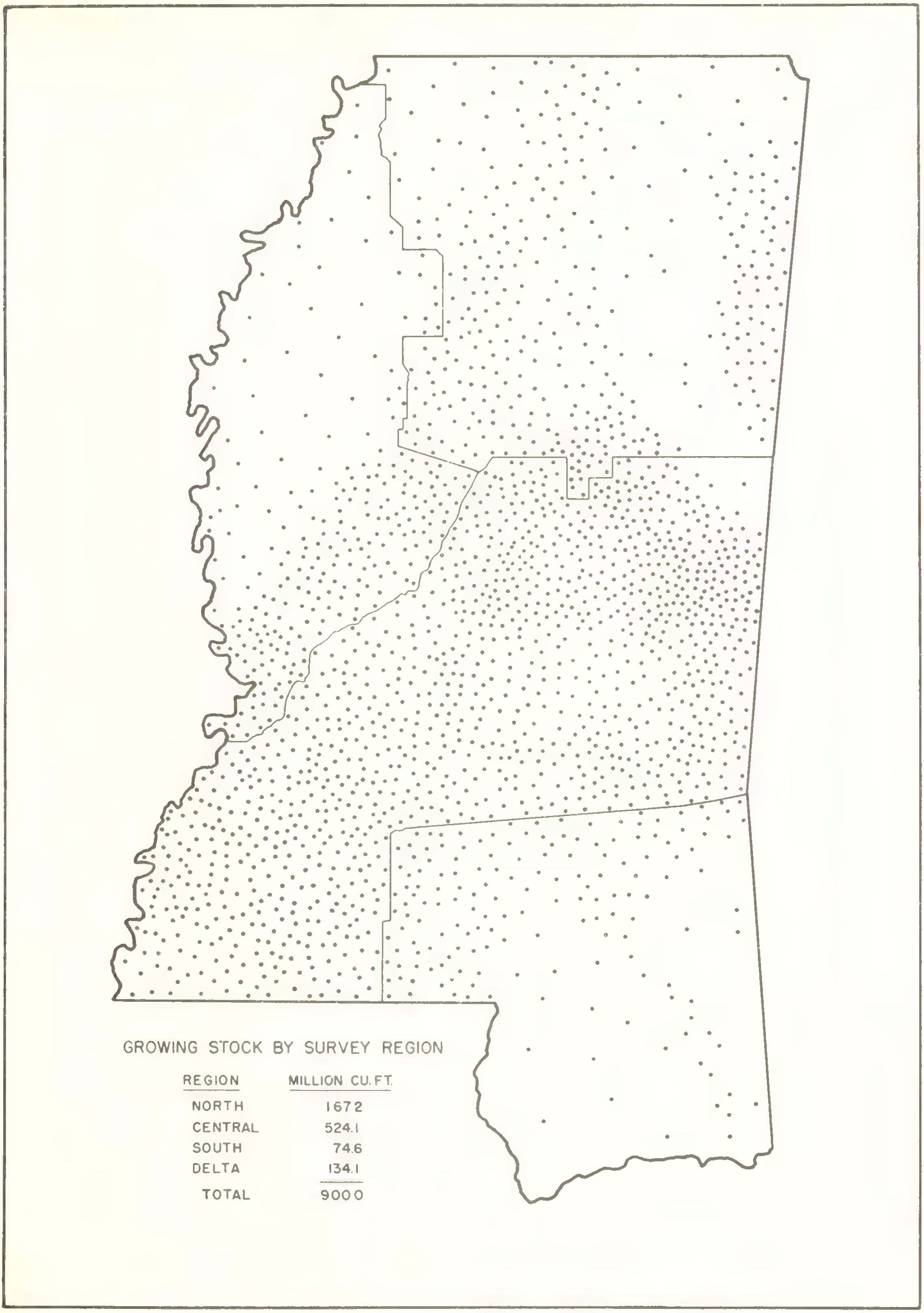
Figure 10.--Distribution of pecan in Mississippi. (Each dot represents one tree measured on Forest Survey plots.)



GROWING STOCK BY SURVEY REGION

| REGION | MILLION CU. FT |
|---|---|
| NORTH | 87.8 |
| CENTRAL | 164.8 |
| SOUTH | 28.1 |
| DELTA | 23.5 |
| TOTAL | 304.2 |

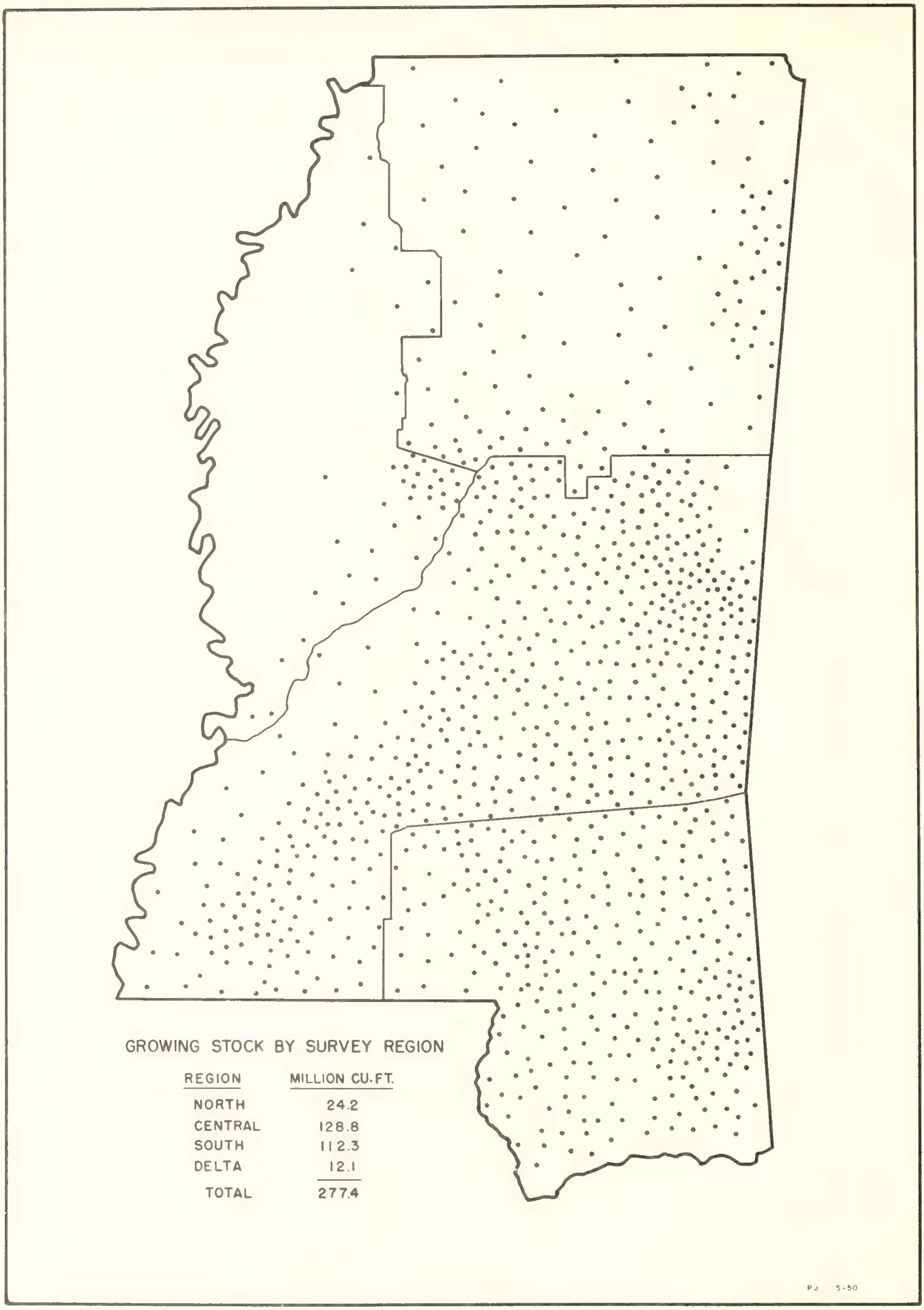
Figure 11.--Distribution of hickory in Mississippi. (Each dot represents one tree measured on Forest Survey plots.)



GROWING STOCK BY SURVEY REGION

| REGION | MILLION CU.FT. |
|---|---|
| NORTH | 1672 |
| CENTRAL | 524.1 |
| SOUTH | 74.6 |
| DELTA | 134.1 |
| TOTAL | 9000 |

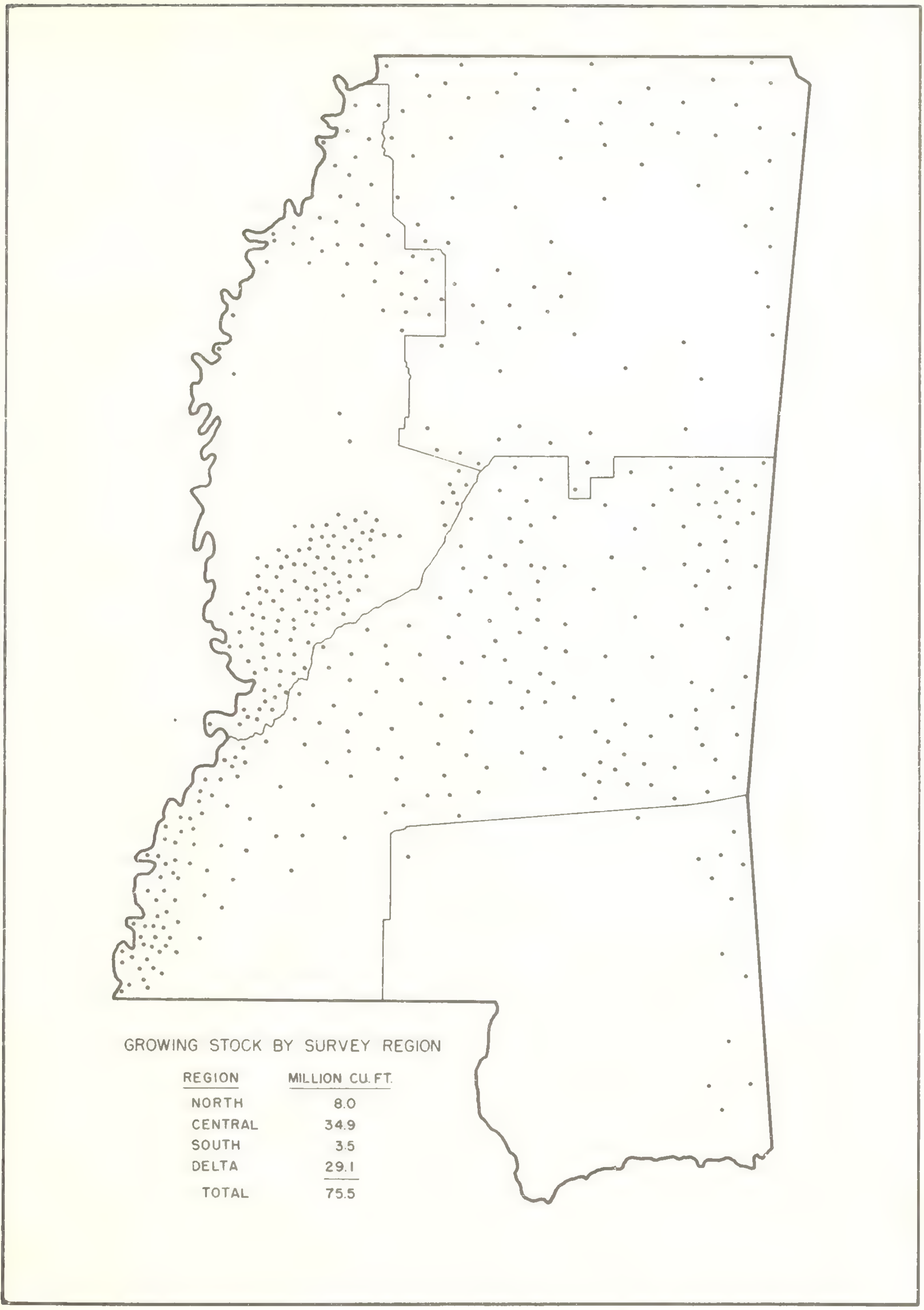
Figure 12.--Distribution of sweetgum in Mississippi. (Each dot represents three trees measured on Forest Survey plots.)



GROWING STOCK BY SURVEY REGION

| REGION | MILLION CU. FT. |
|---|---|
| NORTH | 24.2 |
| CENTRAL | 128.8 |
| SOUTH | 112.3 |
| DELTA | 12.1 |
| TOTAL | 277.4 |

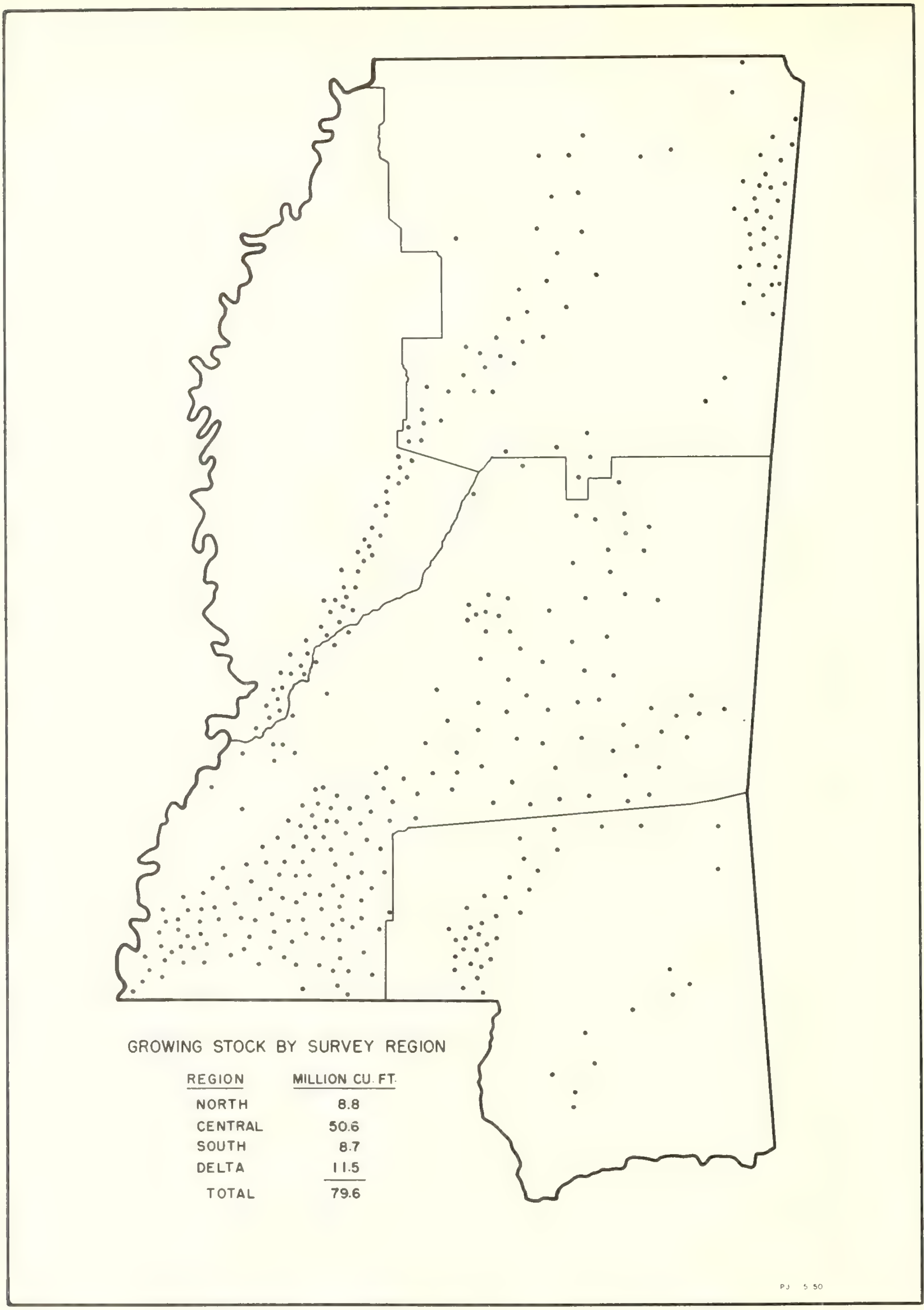
Figure 13.--Distribution of blackgum in Mississippi. (Each dot represents two trees measured on Forest Survey plots.)



GROWING STOCK BY SURVEY REGION

| REGION | MILLION CU. FT. |
|---|---|
| NORTH | 8.0 |
| CENTRAL | 34.9 |
| SOUTH | 3.5 |
| DELTA | 29.1 |
| TOTAL | 75.5 |

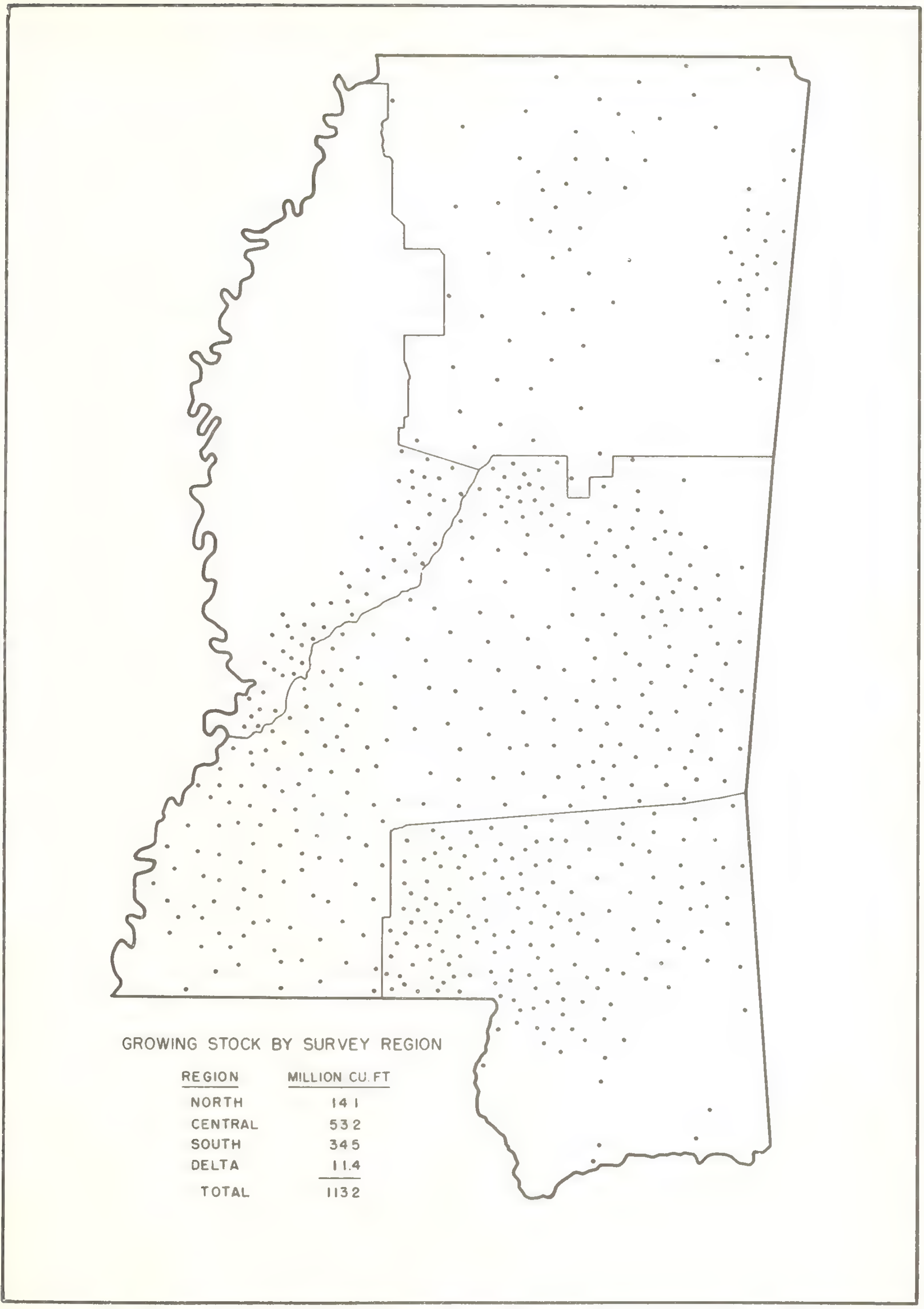
Figure 14.--Distribution of ash in Mississippi. (Each dot represents one tree measured on Forest Survey plots.)



GROWING STOCK BY SURVEY REGION

| REGION | MILLION CU. FT. |
|---|---|
| NORTH | 8.8 |
| CENTRAL | 50.6 |
| SOUTH | 8.7 |
| DELTA | 11.5 |
| TOTAL | 79.6 |

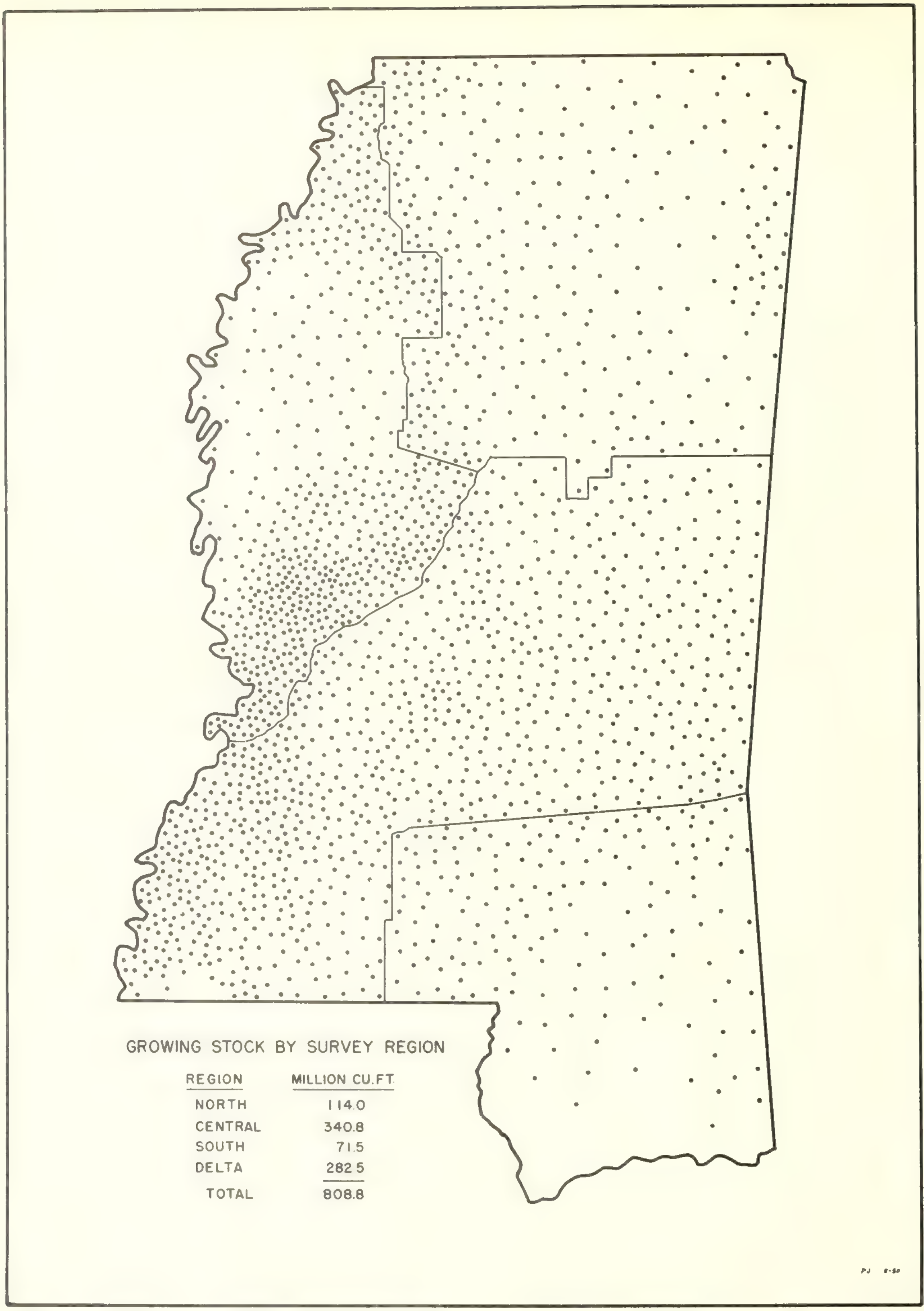
Figure 15.--Distribution of beech in Mississippi. (Each dot represents one tree measured on Forest Survey plots.)



GROWING STOCK BY SURVEY REGION

| REGION | MILLION CU. FT |
|---|---|
| NORTH | 141 |
| CENTRAL | 532 |
| SOUTH | 345 |
| DELTA | 11.4 |
| TOTAL | 1132 |

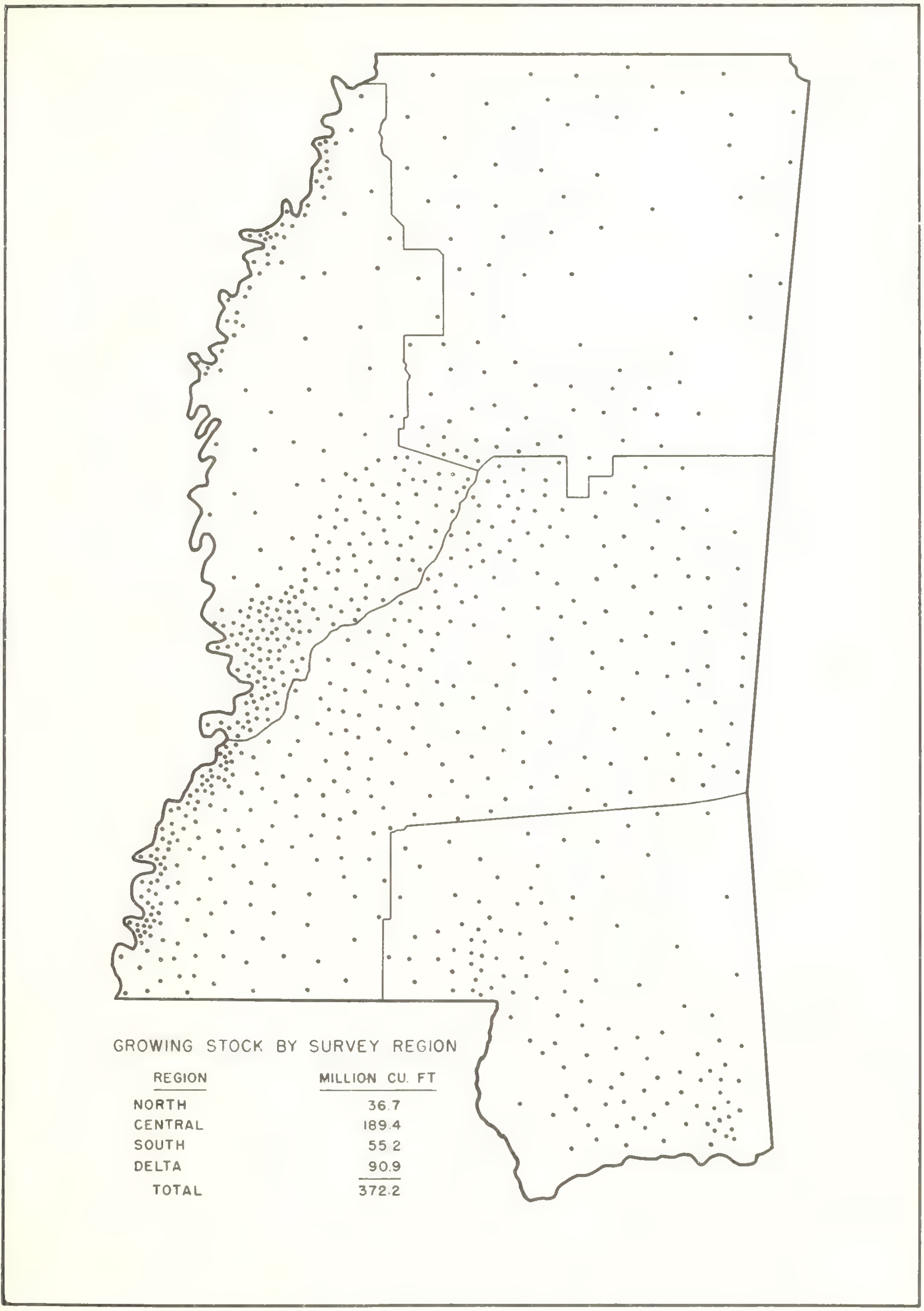
Figure 16.--Distribution of yellow-poplar in Mississippi. (Each dot represents one tree measured on Forest Survey plots.)



GROWING STOCK BY SURVEY REGION

| REGION | MILLION CU.FT. |
|---|---|
| NORTH | 114.0 |
| CENTRAL | 340.8 |
| SOUTH | 71.5 |
| DELTA | 282.5 |
| TOTAL | 808.8 |

Figure 17.--Distribution of large firm-textured hardwoods in Mississippi. (Each dot represents one tree, 17 inches d.b.h. or larger, measured on Forest Survey plots.)



GROWING STOCK BY SURVEY REGION

| REGION | MILLION CU. FT |
|---|---|
| NORTH | 36.7 |
| CENTRAL | 189.4 |
| SOUTH | 55.2 |
| DELTA | 90.9 |
| TOTAL | 372.2 |

Figure 18.--Distribution of large soft-textured hardwoods in Mississippi. (Each dot represents one tree, 17 inches d.b.h. or larger, measured on Forest Survey plots.)

FOREST SURVEY RELEASE 65 AUGUST 1950

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# FOREST STATISTICS FOR
# SOUTHWEST ARKANSAS

A REPORT OF THE SOUTHERN FOREST SURVEY
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SOUTHERN FOREST EXPERIMENT STATION
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New Orleans, La.
FOREST SERVICE, U.S. DEPT. OF AGRICULTURE

AGRIC., UPTON PTG. CO., N.O.

# THE SOUTHERN FOREST SURVEY

The Southern Forest Survey, an activity of the Southern Forest Experiment Station, covers the seven States of the Station's territory--Alabama, Arkansas, Louisiana, Mississippi, Oklahoma, Tennessee, and Texas. This Survey is a part of the nation-wide Forest Survey authorized by the McSweeney-McNary Forest Research Act of 1928. Its five-fold purpose is (1) to take inventory of the supply of standing timber and other forest products; (2) to ascertain the rate at which this supply is being increased through growth; (3) to determine the rate at which this supply is being diminished through industrial and local use, and by fire, insects, disease, and other agencies; (4) to estimate the present requirements and the probable future trend in the requirements for timber and other forest products; and (5) to correlate these findings with existing and anticipated economic conditions, in order that policies may be formulated for the effective use of lands suitable for forest production.

# FOREST STATISTICS FOR
# SOUTHWEST ARKANSAS

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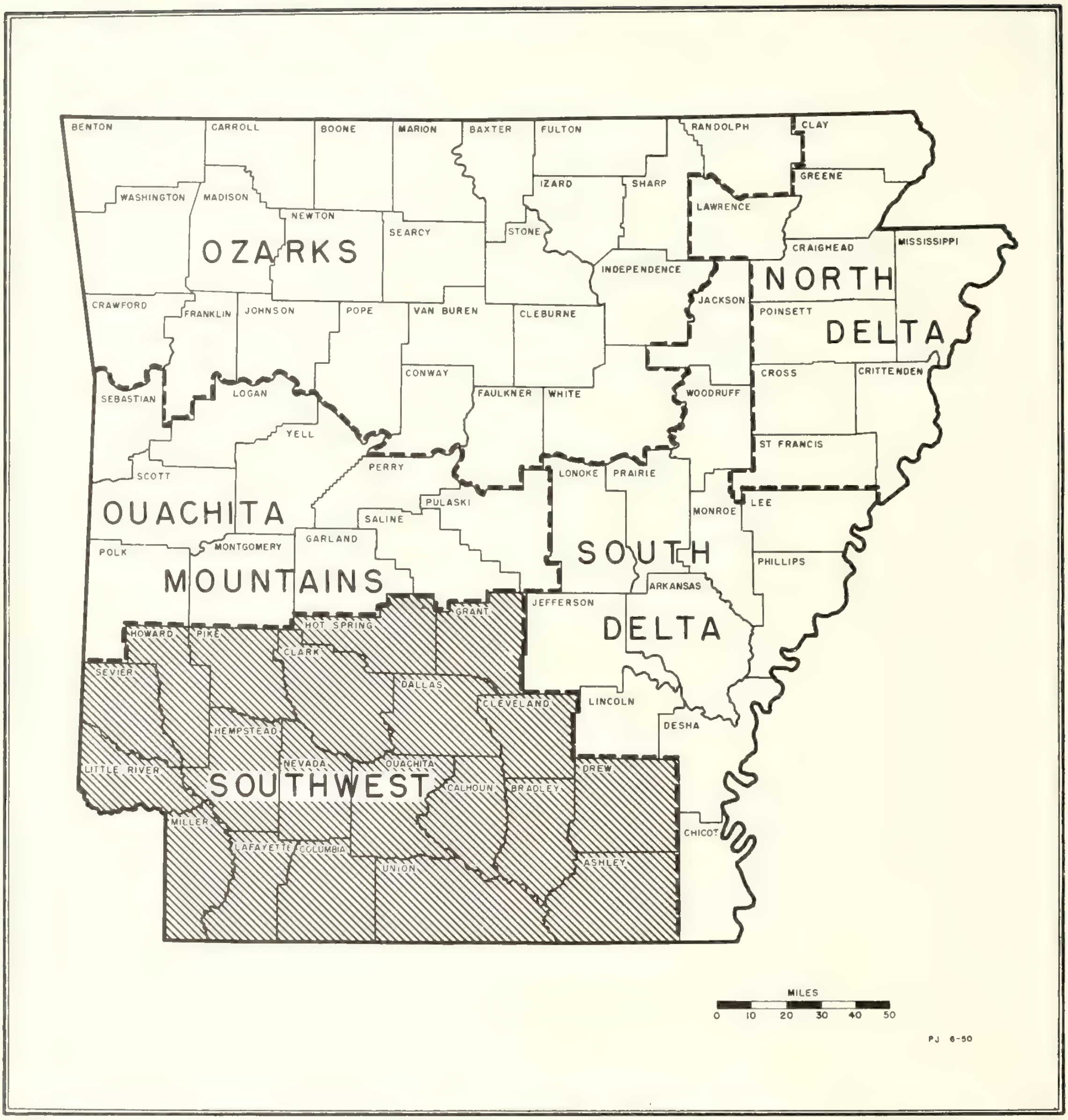

Figure I.--Southwest Arkansas in relation to the other Forest Survey regions in the State.

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The loblolly-shortleaf pine type in southwest Arkansas includes a third of the total forest. Here is one of the more productive, managed stands in this type. Now 48 years old, it has been thinned twice but still contains 170 crop trees per acre.

# FOREST STATISTICS FOR SOUTHWEST ARKANSAS

This publication summarizes the data on forest acreage and timber volume collected by the Southern Forest Survey in the 20 counties of southwest Arkansas (fig. 1) in 1949. This is the second Forest Survey of the area; the first was made in 1936.

Southwest Arkansas is predominantly a forest region. Seventy-one percent of its 8.9 million acres is commercial forest land; a major part of its economic activity is the extraction and processing of timber products. A graphic description of the forest resource will be found on the two pages immediately following.

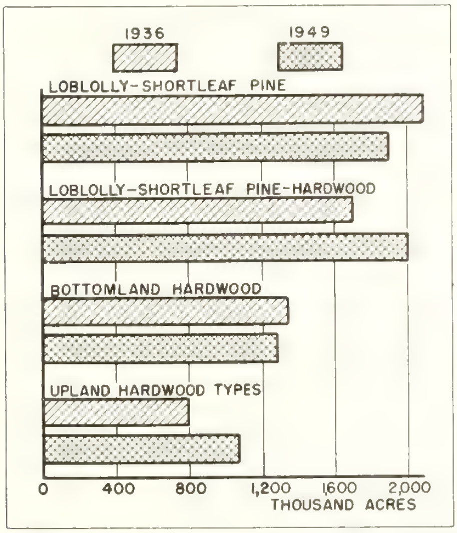


Figure 2--Changes in forest types, 1936-49

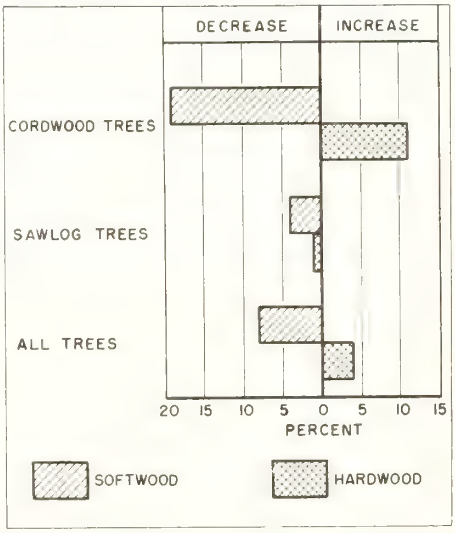


Figure 3--Changes in growing stock, 1936-49

In the 13 years between the two Forest Surveys, forest-land acreage increased 6 percent, mainly because of farm-land abandonment. While the forests were spreading, they were also changing in species composition and timber volume. In general, softwood (mainly pine) decreased in extent and quantity, while hardwood increased. Heavy cutting of pine and vigorous growth of hardwood were among the causes. Important is the fact that owners of perhaps a third of the forest are managing their land so as to build up timber stocking, especially of pine; but that on the remaining bulk of the forest, poor management and timber deterioration are still the rule. Here are some of the net effects of these conditions:

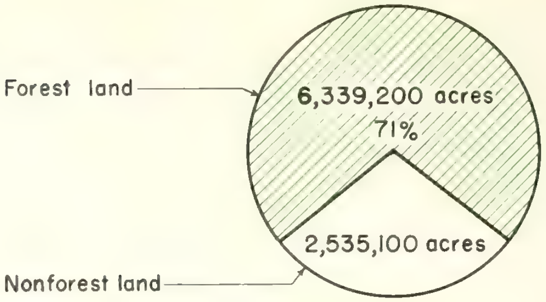
In the 13 years between the Surveys, the acreage classed as pine forest decreased 9 percent; pine-hardwood increased 20 percent; upland hardwood forests increased 35 percent (fig. 2).

In total growing stock, the 2.6 billion cubic feet of softwood represents an 8 percent drop since 1936. Hardwood, totaling 2.0 billion cubic feet, is up 4 percent by virtue of heavy increases in small trees (fig. 3).

# FOREST ACREAGE—1949

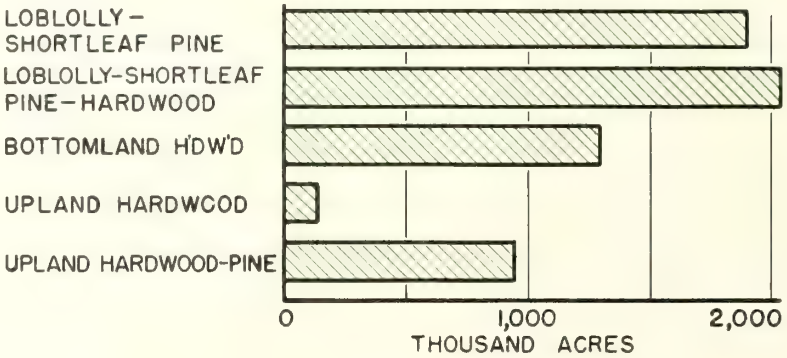
## FOREST LAND

Over 70 percent of the land in southwest Arkansas is forested. Ninety-eight percent of the forest is privately owned.



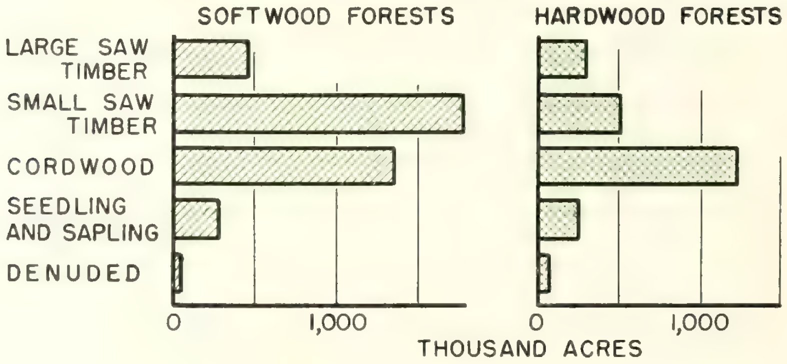
## FOREST TYPE

Softwood types comprise 62 percent of the forest land.



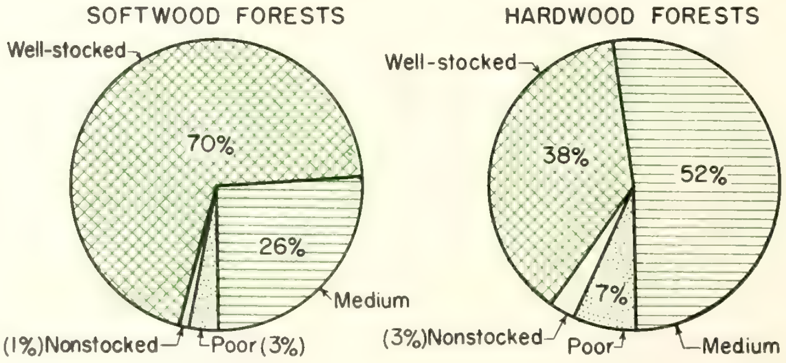
## STAND SIZE

Small saw timber stands predominate in the softwood types; cordwood stands predominate in the hardwood types.



## FOREST STOCKING

Considering all well formed trees, including established seedlings, softwood types are generally well stocked. Hardwood types are less well stocked.



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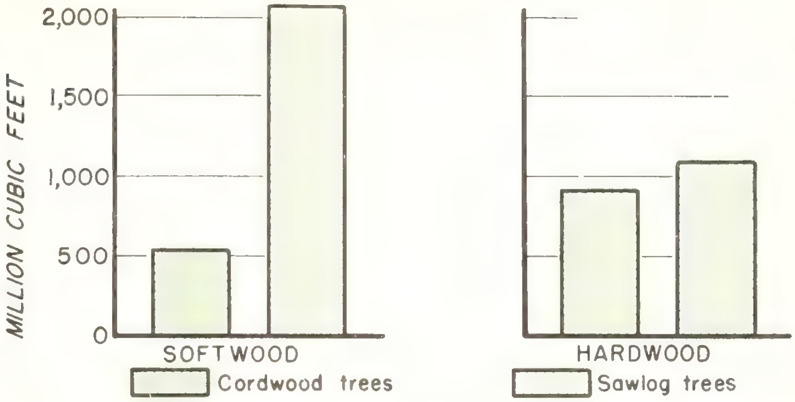
# TIMBER VOLUME — 1949

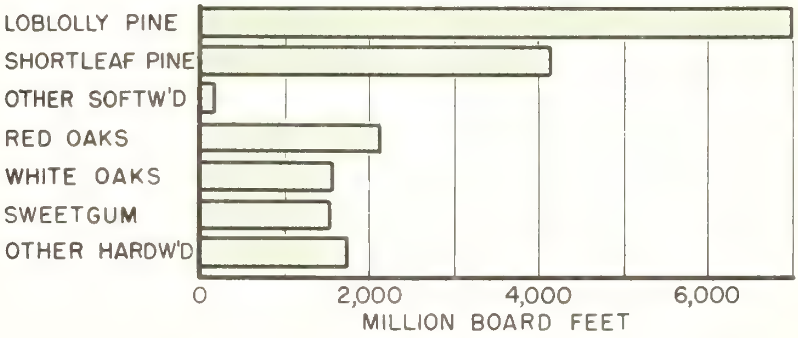
## TOTAL GROWING STOCK

Sawlog trees make up 80 percent of the 2.6 billion cubic feet of softwood growing stock, 54 percent of the 2.0 billion cubic feet of hardwood growing stock.



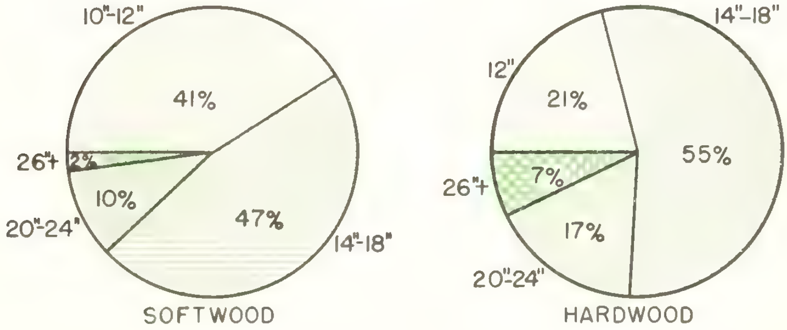
## SAWLOG VOLUME BY SPECIES GROUP

Loblolly pine comprises 38 percent of the total sawlog volume; shortleaf pine, 23 percent.



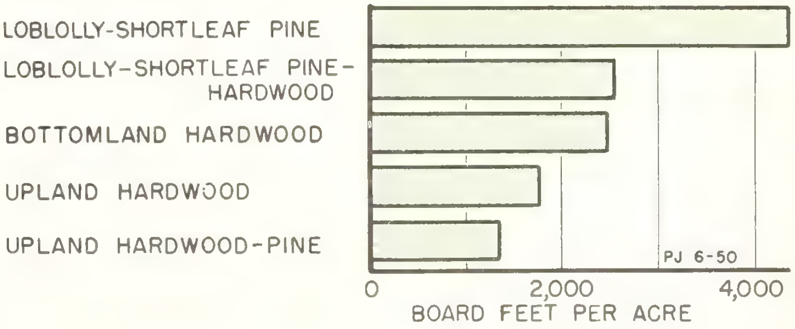
## SAWLOG VOLUME BY TREE DIAMETER

Eighty-eight percent of the softwood sawlog volume and 75 percent of the hardwood is in trees under 20 inches d.b.h.



## SAWLOG VOLUME PER ACRE BY FOREST TYPE

The loblolly-shortleaf pine type averages 4,356 board feet to the acre, by far the most for any type.



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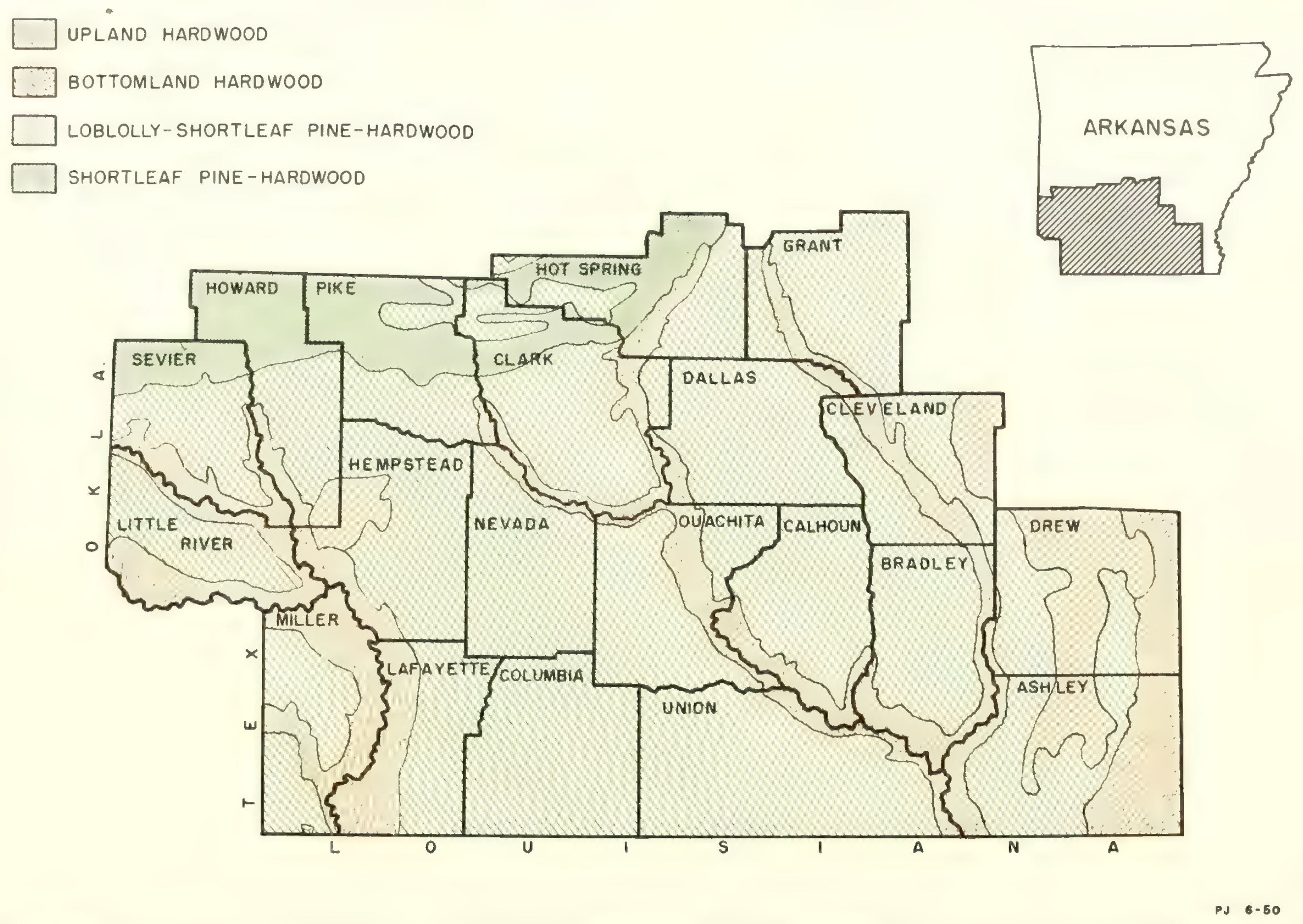

Figure 4.--Generalized forest types in southwest Arkansas. The pure pine and upland hardwood-pine types are not shown.

In sawlog growing stock, both softwood and hardwood declined 2 percent between the Forest Surveys. The 1949 saw-timber volumes are 11.3 and 6.9 billion board feet, respectively.

Before determining changes in the forest between 1936 and 1949, it was necessary to put the data from the first inventory on a basis comparable with the reinventory. For example, between the two Forest Surveys, the official land-area statistics for Arkansas were changed; the boundaries of the southwest region were shifted onto county lines; and the lower limit for hardwood saw timber was dropped from 13.0 to 11.0 inches, d.b.h.

Definitions of terms used in this report will be found in the appendix.

## Accuracy of the Data

Data were obtained from a sampling of aerial photographs and from on-the-ground measurements on pairs of quarter-acre sample plots located every 4 miles on lines 3 miles apart throughout the region. Statistical analysis of the data indicates a sampling error of about 1 percent for the estimate of total forest acreage, 3 percent for total cubic-foot volume, and 4 percent for total board-foot volume. As these totals are broken down by forest type, species, and other subdivisions, the error possibility increases and is greatest for the smallest items.

The maximum sampling error to which the estimates are liable, on a probability of two out of three, is approximately as follows:

| Maximum sampling error in forest area | | Maximum sampling error in cubic-foot volume | | Maximum sampling error in board-foot volume | |
|---|---|---|---|---|---|
| Thousand acres | Percent error | Million cu. ft. | Percent error | Million bd. ft. | Percent error |
| 6,000 | 1 | 4,600 | 3 | 18,000 | 4 |
| 3,000 | 1 | 2,500 | 4 | 10,000 | 5 |
| 1,000 | 2 | 1,000 | 6 | 4,000 | 8 |
| 500 | 3 | 300 | 11 | 1,000 | 15 |
| 50 | 9 | 30 | 36 | 100 | 49 |

The estimates of sampling error do not include errors in volume tables, cull allowances, or other such measurements. Methods of estimating errors of this type have not been developed.

Table 1.--Forest and nonforest land area, 1949

| Land use | Land area | |
|---|---|---|
| | Thousand acres | Percent |
| Forest:[1] | | |
| Commercial | 6,339.2 | 71.4 |
| Reserved-commercial | ... | ... |
| Noncommercial | ... | ... |
| Total | 6,339.2 | 71.4 |
| Nonforest | 2,535.1 | 28.6 |
| All land | 8,874.3 | 100.0 |

[1] No forest land was found that was incapable of producing commercial timber.

Table 2.--Forest land by class of ownership, 1949

| Class of ownership | Commercial forest | |
|---|---|---|
| | Thousand acres | Percent |
| Private: | | |
| Farm[1] | 1,224.5 | 19.3 |
| Other | 5,010.5 | 79.1 |
| Total private | 6,235.0 | 98.4 |
| Public: | | |
| National forest | 4.0 | .1 |
| Soil Conservation Service | 19.1 | .3 |
| Other federal | 55.1 | .8 |
| State | .3 | (2/) |
| County | 25.7 | .4 |
| Total public | 104.2 | 1.6 |
| All ownership | 6,339.2 | 100.0 |

[1] Based on 1945 Census of Agriculture.

[2] Negligible.

Table 3.--Land area and commercial forest by county, 1949[1]

| County | All land | Commercial forest | |
|---|---|---|---|
| | Thousand acres | Thousand acres | Percent |
| Ashley | 597.2 | 430.1 | 72.0 |
| Bradley | 415.4 | 329.8 | 79.4 |
| Calhoun | 401.9 | 333.1 | 82.9 |
| Clark | 562.0 | 400.9 | 71.3 |
| Cleveland | 384.6 | 279.4 | 72.6 |
| Columbia | 491.5 | 308.5 | 62.8 |
| Dallas | 430.1 | 355.0 | 82.5 |
| Drew | 535.0 | 385.0 | 72.0 |
| Grant | 403.8 | 325.3 | 80.6 |
| Hempstead | 470.4 | 261.0 | 55.5 |
| Hot Spring | 397.4 | 306.8 | 77.2 |
| Howard | 384.0 | 271.7 | 70.8 |
| Lafayette | 343.7 | 235.8 | 68.6 |
| Little River | 348.2 | 229.6 | 65.9 |
| Miller | 401.3 | 251.3 | 62.6 |
| Nevada | 394.2 | 232.4 | 59.0 |
| Ouachita | 472.3 | 344.1 | 72.9 |
| Pike | 393.6 | 305.6 | 77.6 |
| Sevier | 374.4 | 268.3 | 71.7 |
| Union | 673.3 | 485.5 | 72.1 |
| All counties | 8,874.3 | 6,339.2 | 71.4 |

[1] County data on sawlog and total growing stock, suitable for combining into county groups, are available as a supplement to this release.

Table 4.--Commercial forest land by stand size and forest type, 1949

| Forest type | All stand sizes | Large saw timber | Small saw timber | Cordwood | Seedling and sapling | Denuded |
|---|---|---|---|---|---|---|
| | Thousand acres | | | | | |
| Softwood types: | | | | | | |
| Loblolly-shortleaf pine | 1,903.8 | 244.7 | 1,010.9 | 454.0 | 160.0 | 34.2 |
| Loblolly-shortleaf pine-hardwood | 2,052.6 | 222.1 | 779.3 | 913.6 | 123.5 | 14.1 |
| Total | 3,956.4 | 466.8 | 1,790.2 | 1,367.6 | 283.5 | 48.3 |
| Hardwood types: | | | | | | |
| Bottomland hardwood | 1,300.7 | 243.7 | 365.0 | 531.7 | 131.2 | 29.1 |
| Upland hardwood | 138.2 | 13.9 | 31.1 | 79.7 | 6.8 | 6.7 |
| Upland hardwood-pine | 943.9 | 60.3 | 116.0 | 622.8 | 118.2 | 26.6 |
| Total | 2,382.8 | 317.9 | 512.1 | 1,234.2 | 256.2 | 62.4 |
| All types | 6,339.2 | 784.7 | 2,302.3 | 2,601.8 | 539.7 | 110.7 |

Table 5.--Commercial forest land by degree of tree stocking and forest type, 1949

| Forest type | All stocking | Well stocked | Medium stocked | Poorly stocked | Non-stocked |
|---|---|---|---|---|---|
| | Thousand acres | | | | |
| Softwood types: | | | | | |
| Loblolly-shortleaf pine | 1,903.8 | 1,417.8 | 381.2 | 70.6 | 34.2 |
| Loblolly-shortleaf pine-hardwood | 2,052.6 | 1,345.5 | 640.3 | 52.7 | 14.1 |
| Total | 3,956.4 | 2,763.3 | 1,021.5 | 123.3 | 48.3 |
| Hardwood types: | | | | | |
| Bottomland hardwood | 1,300.7 | 484.0 | 675.5 | 112.1 | 29.1 |
| Upland hardwood | 138.2 | 48.5 | 76.1 | 6.9 | 6.7 |
| Upland hardwood-pine | 943.9 | 377.2 | 489.5 | 50.6 | 26.6 |
| Total | 2,382.8 | 909.7 | 1,241.1 | 169.6 | 62.4 |
| All types | 6,339.2 | 3,673.0 | 2,262.6 | 292.9 | 110.7 |

Table 6.--Area of saw-timber stands by stand quality and forest types, 1949

| Forest type | All qualities | Fair or better | Poor |
|---|---|---|---|
| | Thousand acres | | |
| Softwood types: | | | |
| Loblolly-shortleaf pine | 1,255.6 | 626.0 | 629.6 |
| Loblolly-shortleaf pine-hardwood | 1,001.4 | 401.9 | 599.5 |
| Total | 2,257.0 | 1,027.9 | 1,229.1 |
| Hardwood types: | | | |
| Bottomland hardwood | 608.7 | 246.4 | 362.3 |
| Upland hardwood | 45.0 | 20.8 | 24.2 |
| Upland hardwood-pine | 176.3 | 64.2 | 112.1 |
| Total | 830.0 | 331.4 | 498.6 |
| All types | 3,087.0 | 1,359.3 | 1,727.7 |

Table 7.--Basal area per acre of growing stock[1/] and cull trees by forest-type group, 1949

| Forest-type group | All trees | Growing stock | Cull trees |
|---|---|---|---|
| | Square feet | | |
| Softwood | 71.8 | 62.7 | 9.1 |
| Bottomland hardwood | 70.9 | 47.7 | 23.2 |
| Upland hardwood 2/ | 56.6 | 42.8 | 13.8 |
| All types | 69.0 | 56.2 | 12.8 |

1/ Includes sound, well-formed 2- and 4-inch trees.
2/ Includes upland hardwood-pine.

Table 8.--Distribution of total growing stock by species within each forest type, 1949

| Species | All types 1/ | Loblolly-shortleaf pine | Loblolly-shortleaf pine-hardwood | Bottom-land hardwood | Upland hardwood | Upland hardwood-pine |
|---|---|---|---|---|---|---|
| | - - - - - - | - - - - - - | - - Percent - - | - - - - - - | - - - - - - | - - - - - - |
| Softwood: | | | | | | |
| Loblolly pine | 32.7 | 47.4 | 36.6 | 3.9 | ... | 7.6 |
| Shortleaf pine | 22.8 | 40.2 | 16.8 | (2/) | ... | 4.0 |
| Cypress | .8 | (2/) | .1 | 4.7 | ... | ... |
| Cedar | (2/) | (2/) | (2/) | ... | ... | (2/) |
| Total | 56.3 | 87.6 | 53.5 | 8.6 | ... | 11.6 |
| Hardwood: | | | | | | |
| Southern red, black, and scarlet oaks | 6.3 | 3.0 | 10.7 | 0.7 | 19.7 | 16.6 |
| Cherrybark, Shumard, and northern red oaks | 1.7 | .5 | 1.7 | 3.0 | 12.6 | 3.9 |
| Water oaks | 4.6 | .5 | 3.5 | 17.2 | 6.3 | 4.2 |
| White oak | 4.1 | 1.5 | 6.8 | 1.8 | 14.1 | 10.7 |
| Other white oaks | 5.9 | 2.3 | 7.5 | 8.0 | 17.6 | 11.7 |
| Sweetgum | 10.1 | 2.7 | 8.0 | 29.0 | 11.4 | 18.7 |
| Black and tupelo gums | 2.5 | .7 | 2.8 | 5.1 | 1.7 | 5.2 |
| Cottonwood | .1 | ... | ... | .5 | ... | ... |
| Willow | .4 | ... | .1 | 1.9 | ... | ... |
| Pecan | .4 | ... | ... | 2.6 | (2/) | (2/) |
| Other hickories | 3.2 | .9 | 3.4 | 4.6 | 9.9 | 9.8 |
| Elms | 1.6 | .2 | .6 | 6.0 | 5.1 | 2.3 |
| Maples | .5 | (2/) | .4 | 1.0 | ... | 1.7 |
| Yellow-poplar | (2/) | ... | ... | ... | ... | (2/) |
| Sycamore | .3 | ... | (2/) | 1.6 | ... | .5 |
| Ash | .5 | .1 | .3 | 1.8 | .8 | 1.1 |
| Beech | .3 | (2/) | .3 | .7 | ... | 1.5 |
| Sweet bay and magnolia | .1 | ... | .2 | .5 | ... | (2/) |
| Hackberry | .4 | ... | (2/) | 2.1 | ... | .1 |
| Other hardwoods | .7 | (2/) | .2 | 3.3 | .8 | .4 |
| Total | 43.7 | 12.4 | 46.5 | 91.4 | 100.0 | 88.4 |
| All species | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

1/ Cedar type included.
2/ Negligible.

Table 9.--Total growing stock and sawlog volume by species, 1949

| Species | Total growing stock | Sawlog volume |
|---|---|---|
| | Million cubic feet | Million board feet |
| Softwood: | | |
| Loblolly pine | 1,510.1 | 6,985.4 |
| Shortleaf pine | 1,051.4 | 4,133.7 |
| Cypress | 37.1 | 180.1 |
| Cedar | .4 | .6 |
| Total | 2,599.0 | 11,299.8 |
| Hardwood: | | |
| Southern red, black, and scarlet oaks | 290.9 | 903.3 |
| Cherrybark, Shumard, and northern red oaks | 79.5 | 337.0 |
| Water oaks | 212.8 | 878.4 |
| White oak | 190.3 | 674.1 |
| Other white oaks | 270.7 | 883.9 |
| Sweetgum | 470.1 | 1,525.2 |
| Black and tupelo gums | 113.1 | 470.6 |
| Cottonwood | 4.1 | 13.4 |
| Willow | 16.2 | 66.9 |
| Pecan | 20.0 | 91.1 |
| Other hickories | 147.0 | 506.3 |
| Elms | 71.9 | 193.3 |
| Maples | 21.1 | 56.7 |
| Yellow-poplar | .2 | ... |
| Sycamore | 14.9 | 66.6 |
| Ash | 23.8 | 75.8 |
| Beech | 15.0 | 63.0 |
| Sweet bay and magnolia | 6.4 | 12.8 |
| Hackberry | 17.1 | 50.5 |
| Other hardwoods | 31.0 | 69.6 |
| Total | 2,016.1 | 6,938.5 |
| All species | 4,615.1 | 18,238.3 |

Table 10.--Total volume by class of timber and species, 1949

| Species | All timber | Growing stock | | | | Tops and limbs | Cull trees |
|---|---|---|---|---|---|---|---|
| | | All trees | Sawlog trees | | Cordwood trees | | |
| | | | Sawlog portions | Tops | | | |
| | Million cubic feet | | | | | | |
| Softwood: | | | | | | | |
| Lob'ly pine | 1,520.6 | 1,510.1 | 1,136.0 | 130.2 | 243.9 | ... | 10.5 |
| Shortl. pine | 1,054.6 | 1,051.4 | 691.4 | 76.4 | 283.6 | ... | 3.2 |
| Other softw. | 40.1 | 37.5 | 29.5 | 3.8 | 4.2 | ... | 2.6 |
| Total | 2,615.3 | 2,599.0 | 1,856.9 | 210.4 | 531.7 | ... | 16.3 |
| Hardwood: | | | | | | | |
| Red oaks | 1,039.3 | 583.2 | 334.3 | ... | 248.9 | 197.2 | 258.9 |
| White oaks | 767.2 | 461.0 | 244.9 | ... | 216.1 | 156.8 | 149.4 |
| Hickories | 238.6 | 147.0 | 78.6 | ... | 68.4 | 48.1 | 43.5 |
| Sweetgum | 692.2 | 470.1 | 242.0 | ... | 228.1 | 118.3 | 103.8 |
| Black & tupelo gums | 216.8 | 113.1 | 73.3 | ... | 39.8 | 40.8 | 62.9 |
| Other hardwood | 566.3 | 241.7 | 120.8 | ... | 120.9 | 72.3 | 252.3 |
| Total | 3,520.4 | 2,016.1 | 1,093.9 | ... | 922.2 | 633.5 | 870.8 |
| All species | 6,135.7 | 4,615.1 | 2,950.8 | 210.4 | 1,453.9 | 633.5 | 887.1 |
| | Thousand cords | | | | | | |
| Softwood: | | | | | | | |
| Lob'ly pine | 20,274.7 | 20,134.7 | 15,146.7 | 1,736.0 | 3,252.0 | ... | 140.0 |
| Shortl. pine | 14,061.3 | 14,018.6 | 9,218.6 | 1,018.7 | 3,781.3 | ... | 42.7 |
| Other softw. | 534.7 | 500.0 | 393.3 | 50.7 | 56.0 | ... | 34.7 |
| Total | 34,870.7 | 34,653.3 | 24,758.6 | 2,805.4 | 7,089.3 | ... | 217.4 |
| Hardwood: | | | | | | | |
| Red oaks | 15,511.9 | 8,704.4 | 4,989.5 | ... | 3,714.9 | 2,943.3 | 3,864.2 |
| White oaks | 11,450.7 | 6,880.5 | 3,655.2 | ... | 3,225.3 | 2,340.3 | 2,229.9 |
| Hickories | 3,561.2 | 2,194.0 | 1,173.1 | ... | 1,020.9 | 717.9 | 649.3 |
| Sweetgum | 10,331.3 | 7,016.4 | 3,611.9 | ... | 3,404.5 | 1,765.7 | 1,549.2 |
| Black & tupelo gums | 3,235.8 | 1,688.0 | 1,094.0 | ... | 594.0 | 609.0 | 938.8 |
| Other hardwood | 8,452.2 | 3,607.5 | 1,803.0 | ... | 1,804.5 | 1,079.1 | 3,765.6 |
| Total | 52,543.1 | 30,090.8 | 16,326.7 | ... | 13,764.1 | 9,455.3 | 12,997.0 |
| All species | 87,413.8 | 64,744.1 | 41,085.3 | 2,805.4 | 20,853.4 | 9,455.3 | 13,214.4 |

Table 11.--Total growing stock by species and stand size, 1949

| Species | All stand sizes | Large saw timber | Small saw timber | Cordwood | Seedling and sapling | Denuded |
|---|---|---|---|---|---|---|
| | Million cubic feet | | | | | |
| Softwood: | | | | | | |
| Loblolly pine | 1,510.1 | 428.7 | 862.2 | 207.9 | 10.8 | 0.5 |
| Shortleaf pine | 1,051.4 | 165.8 | 727.0 | 154.5 | 3.9 | .2 |
| Other softwoods | 37.5 | 19.0 | 11.8 | 6.5 | .2 | ... |
| Total | 2,599.0 | 613.5 | 1,601.0 | 368.9 | 14.9 | .7 |
| Hardwood: | | | | | | |
| Red oaks | 583.2 | 136.5 | 264.1 | 178.1 | 4.5 | ... |
| White oaks | 461.0 | 85.8 | 196.2 | 172.0 | 5.8 | 1.2 |
| Hickories | 147.0 | 31.4 | 57.9 | 56.6 | .7 | .4 |
| Sweetgum | 470.1 | 95.1 | 205.3 | 163.3 | 6.4 | ... |
| Black and tupelo gums | 113.1 | 37.7 | 49.5 | 24.7 | 1.2 | ... |
| Other hardwoods | 241.7 | 59.4 | 86.8 | 91.0 | 3.4 | 1.1 |
| Total | 2,016.1 | 445.9 | 859.8 | 685.7 | 22.0 | 2.7 |
| All species | 4,615.1 | 1,059.4 | 2,460.8 | 1,054.6 | 36.9 | 3.4 |

Table 12.--Average volume per acre of total growing stock by stand size and forest type, 1949

| Forest type | All stand sizes | Large saw timber | Small saw timber | Cordwood | Seedling and sapling | Denuded |
|---|---|---|---|---|---|---|
| | Cubic feet | | | | | |
| Softwood types: | | | | | | |
| Loblolly-shortleaf pine | 1,051 | 1,864 | 1,307 | 469 | 58 | 15 |
| Loblolly-shortleaf pine-hardwood | 666 | 1,336 | 921 | 376 | 66 | ... |
| Total | 851 | 1,613 | 1,139 | 407 | 61 | 10 |
| Hardwood types: | | | | | | |
| Bottomland hardwood | 594 | 969 | 841 | 411 | 63 | 82 |
| Upland hardwood | 481 | 1,036 | 672 | 388 | ... | 45 |
| Upland hardw.-pine | 433 | 925 | 802 | 399 | 95 | 8 |
| Total | 524 | 964 | 822 | 403 | 76 | 46 |
| All types | 728 | 1,350 | 1,069 | 405 | 68 | 31 |

Table 13.--Sawlog volume by species and tree diameter, 1949

| Species | All diameter classes | 10 - 12 inches 1/ | 14 - 18 inches | 20 - 24 inches | 26 inches and up |
|---|---|---|---|---|---|
| | Million board feet | | | | |
| Softwood: | | | | | |
| Loblolly pine | 6,985.4 | 2,477.1 | 3,401.2 | 929.4 | 177.7 |
| Shortleaf pine | 4,133.7 | 2,099.7 | 1,893.7 | 140.3 | ... |
| Other softwoods | 180.7 | 33.3 | 87.6 | 34.6 | 25.2 |
| Total | 11,299.8 | 4,610.1 | 5,382.5 | 1,104.3 | 202.9 |
| Hardwood: | | | | | |
| Red oaks | 2,118.7 | 458.7 | 1,123.5 | 406.6 | 129.9 |
| White oaks | 1,558.0 | 310.3 | 824.1 | 307.7 | 115.9 |
| Hickories | 506.3 | 97.4 | 282.8 | 62.4 | 63.7 |
| Sweetgum | 1,525.2 | 365.5 | 910.2 | 184.2 | 65.3 |
| Black and tupelo gums | 470.6 | 67.0 | 227.7 | 134.3 | 41.6 |
| Other hardwoods | 759.7 | 176.8 | 393.3 | 116.0 | 73.6 |
| Total | 6,938.5 | 1,475.7 | 3,761.6 | 1,211.2 | 490.0 |
| All species | 18,238.3 | 6,085.8 | 9,144.1 | 2,315.5 | 692.9 |

1/ Hardwood sawlog volume not tallied in trees under 11.0 inches d.b.h.

Table 14.--Sawlog volume by species and stand size, 1949

| Species | All stand sizes | Large saw timber | Small saw timber | Cordwood | Seedling and sapling | Denuded |
|---|---|---|---|---|---|---|
| | Million board feet | | | | | |
| Softwood: | | | | | | |
| Loblolly pine | 6,985.4 | 2,400.9 | 3,958.1 | 584.7 | 31.7 | ... |
| Shortleaf pine | 4,133.7 | 866.4 | 2,942.5 | 312.9 | 11.9 | ... |
| Other softwoods | 180.7 | 102.7 | 47.6 | 29.5 | .9 | ... |
| Total | 11,299.8 | 3,370.0 | 6,958.2 | 927.1 | 44.5 | ... |
| Hardwood: | | | | | | |
| Red oaks | 2,118.7 | 632.0 | 1,056.1 | 416.1 | 14.5 | ... |
| White oaks | 1,558.0 | 412.6 | 674.8 | 449.1 | 14.4 | 7.1 |
| Hickories | 506.3 | 165.7 | 199.5 | 137.6 | 1.5 | 2.0 |
| Sweetgum | 1,525.2 | 409.2 | 773.8 | 326.9 | 15.3 | ... |
| Black and tupelo gums | 470.6 | 194.3 | 192.1 | 80.5 | 3.7 | ... |
| Other hardwoods | 759.7 | 289.3 | 287.8 | 172.6 | 3.9 | 6.1 |
| Total | 6,938.5 | 2,103.1 | 3,184.1 | 1,582.8 | 53.3 | 15.2 |
| All species | 18,238.3 | 5,473.1 | 10,142.3 | 2,509.9 | 97.8 | 15.2 |

Table 15.--Sawlog volume by species, softwood tree grade, hardwood log grade, and stand quality, 1949

| Species | All grades | Grade 1 | Grade 2 | Grade 3 |  |
|---|---|---|---|---|---|
|  |  |  |  | In fair and better stands | In poor stands |
|  | Million board feet |  |  |  |  |
| Softwood: |  |  |  |  |  |
| Loblolly pine | 6,985.4 | 1,348.2 | 1,732.4 | 1,608.8 | 2,296.0 |
| Shortleaf pine | 4,133.7 | 768.9 | 1,128.5 | 863.2 | 1,373.1 |
| Other softwoods | 180.7 | 104.1 | 31.8 | 15.5 | 29.3 |
| Total | 11,299.8 | 2,221.2 | 2,892.7 | 2,487.5 | 3,698.4 |
| Hardwood: |  |  |  |  |  |
| Red oaks | 2,118.7 | 108.1 | 351.7 | 602.2 | 1,056.7 |
| White oaks | 1,558.0 | 116.8 | 324.1 | 394.3 | 722.8 |
| Hickories | 506.3 | 36.5 | 126.1 | 164.6 | 179.1 |
| Sweetgum | 1,525.2 | 54.9 | 178.4 | 366.9 | 925.0 |
| Black and tupelo gums | 470.6 | 69.6 | 124.7 | 144.8 | 131.5 |
| Other hardwoods | 759.7 | 50.9 | 154.2 | 198.5 | 356.1 |
| Total | 6,938.5 | 436.8 | 1,259.2 | 1,871.3 | 3,371.2 |
| All species | 18,238.3 | 2,658.0 | 4,151.9 | 4,358.8 | 7,069.6 |

Table 16.--Average sawlog volume per acre by stand size and forest type, 1949

| Forest type | All stand sizes | Large saw timber | Small saw timber | Cordwood | Seedling and sapling | Denuded |
|---|---|---|---|---|---|---|
| | - - - - - - | - - - - - - | - - - - Board | feet - - - - | - - - - - - | - - - - - - |
| Softwood types: | | | | | | |
| Loblolly-shortleaf pine | 4,356 | 9,604 | 5,440 | 939 | 112 | ... |
| Loblolly-shortleaf pine-hardwood | 2,548 | 6,776 | 3,627 | 964 | 155 | ... |
| All softwood types | 3,418 | 8,259 | 4,650 | 956 | 131 | ... |
| Hardwood types: | | | | | | |
| Bottomland hardwood | 2,474 | 5,197 | 3,661 | 1,073 | 231 | 481 |
| Upland hardwood | 1,751 | 5,453 | 2,614 | 1,050 | ... | 179 |
| Upland hardwood-pine | 1,329 | 4,570 | 3,444 | 882 | 257 | ... |
| All hardwood types | 1,978 | 5,090 | 3,548 | 975 | 237 | 244 |
| All types | 2,877 | 6,975 | 4,405 | 965 | 181 | 137 |

## Definition of Terms

### Forest Land

Forest land. Land which bears forest growth, or land from which the forest has been removed and which has not been put to other use. Each tract classed as forest is at least one acre in size.

Commercial forest land. Forest land bearing, or capable of bearing, timber of commercial quantity and quality, and not withdrawn from commercial timber use.

Reserved-commercial forest land. Forest land in public parks or preserves which qualifies as commercial forest land except that it is withdrawn from commercial timber use through statute, ordinance, or administrative order.

### Tree Species

Softwoods. Loblolly pine (Pinus taeda), shortleaf pine (P. echinata), bald cypress (Taxodium distichum), and eastern redcedar (Juniperus virginiana).

Hardwoods. Broad-leaved species, of which the most numerous groups or species are the white oaks (Quercus, subgenus Leucobalanus), red oaks (subgenus Erythrobalanus), hickories (Carya spp.), sweetgum (Liquidambar styraciflua), and black and tupelo gums (Nyssa spp.).

### Forest Type

Forest type is determined only from dominant and codominant growing stock and dominant and codominant smaller sound trees of good form.

Loblolly-shortleaf pine. Stands in which pines comprise at least 75 percent of the trees.

Loblolly-shortleaf pine-hardwood. Stands in which pines comprise at least 25 percent of the trees, but less than 75 percent.

Bottomland hardwood. Stands in which bottomland hardwoods and cypress comprise 76 percent or more of the trees.

Upland hardwood. Stands in which upland hardwoods comprise 76 percent or more of the trees, and no pine is present.

Upland hardwood-pine. Stands in which upland hardwoods comprise 76 percent or more of the trees, and some pine is present.

## Class of Timber

Growing stock. Sawlog growing stock is the sawlog portion of sawlog trees. Total growing stock includes sawlog growing stock, and upper stems of softwood sawlog trees and entire stems of cordwood trees to a minimum diameter of 4 inches inside bark.

Sawlog tree. A live, merchantable softwood 9.0 inches or larger in d.b.h., or a live, merchantable hardwood 11.0 inches or larger in d.b.h. To be merchantable, the tree must have at least a merchantable 12-foot butt log or 50 percent of its gross volume in merchantable logs.

Cordwood tree. A live tree 5.0 inches or larger in d.b.h., but smaller than sawlog size, which would become a sawlog tree if it should grow to sawlog size.

Cull tree. A live tree 5.0 inches or larger in d.b.h., which because of decay or sound defect fails to meet the specifications for a cordwood or sawlog tree.

Tops and limbs. Upper stems and limbs of hardwood sawlog trees between the top sawlog and a minimum diameter of 4 inches inside bark.

## Stand-size Class

Large saw timber. Stands having a net volume of at least 1,500 board feet per acre in sawlog trees and at least half of this volume in softwoods 15.0 inches d.b.h. and larger, and hardwoods 17.0 inches d.b.h. and larger.

Small saw timber. Stands which do not meet the specifications for large saw timber but which do contain a net volume of at least 1,500 board feet per acre in sawlog trees.

Cordwood. Stands below saw-timber specifications, with at least 10 percent of the growing space occupied by growing stock, and with at least 5 percent of the growing space occupied by cordwood trees.

Seedling and sapling. Stands that do not meet saw-timber and cordwood specifications in which at least 10 percent of the growing space is occupied by growing stock and smaller sound trees of commercial species, and with at least 5 percent of the space occupied by seedlings and saplings.

Denuded. Commercial forest land which does not qualify for any other stand-size class.

## Tree Stocking

Degree of stocking is determined by the ratio of the actual number of growing-stock and smaller sound trees of good form in the stand to the number of trees of the same size required to occupy the site fully (for best growth). Under this criterion, stands are well stocked when the percentage of full stocking is 70 or above, medium stocked when the percentage is 40 to 69, poorly stocked when the percentage is 10 to 39, and nonstocked when the percentage is under 10.

## Volume and Basal Area

Sawlog volume. Net volume in merchantable sawlogs in sawlog trees, measured by the International 1/4-inch log rule.

Total volume. Volume of sound, usable wood in stems of softwoods and stems and branches of hardwoods between stump and minimum top diameter of 4 inches inside bark, measured in cubic feet.

Basal area. Cross-sectional area of trees at breast height, measured in square feet.

## Diameter

D.b.h. (diameter breast high). Tree diameter in inches, outside bark, measured at 4½ feet above ground.

Diameter class. Each 2-inch diameter class includes diameters 1.0 inch below and 0.9 inch above the stated midpoint. E.g., the 12-inch class includes trees 11.0 up to and including 12.9 inches.

## Log and Tree Grade

Tree grades for softwoods:

Grade 1 (smooth[1] trees). Not less than 20 feet of clear bole and at least 40 percent of the merchantable length clear of limbs and knots in sections not less than 8 feet in length.
All cedar sawlog trees were graded as No. 1.

Grade 2 (limby trees). Not less than 12 feet of clear bole and 25 to 39 percent of the merchantable length clear of limbs and knots in sections not less than 8 feet in length.

Grade 3 (rough trees). Merchantable trees below grade-2 specifications.

---

[1] Except as noted in the case of cedar.

Log grades for hardwoods:[1]

Grade 1. Smooth, generally clear logs which yield at least one-half of their volume in higher grades of lumber.

Grade 2. Logs of average clearness which yield from one-third to one-half of their volume in higher grades of lumber.

Grade 3. Small logs or logs of less than average clearness which yield less than one-third of their volume in higher grades of lumber, or sound, straight logs with many small defects which make them suitable only for ties and timbers.

## Stand Quality

Fair and better. A stand in which grade 2 or better hardwood logs or softwood trees are present.

Poor. A stand in which no grade 2 hardwood logs or softwood trees are present.

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[1] For detailed external specifications of log grades used, see "Interim Sawlog Grades for Southern Hardwoods," Southern Forest Experiment Station, 9 pp., January 1948. (Revised).

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# FOREST STATISTICS FOR
# EASTERN TENNESSEE

A REPORT OF THE SOUTHERN FOREST SURVEY
William A. Duerr, In Charge

SOUTHERN FOREST EXPERIMENT STATION
Chas. A. Connaughton, Director
New Orleans, La.
FOREST SERVICE, U.S. DEPT. OF AGRICULTURE

# THE SOUTHERN FOREST SURVEY

The Southern Forest Survey, an activity of the Southern Forest Experiment Station, covers the seven States of the Station's territory--Alabama, Arkansas, Louisiana, Mississippi, Oklahoma, Tennessee, and Texas. This Survey is a part of the nation-wide Forest Survey authorized by the McSweeney-McNary Forest Research Act of 1928. Its five-fold purpose is (1) to take inventory of the supply of standing timber and other forest products; (2) to ascertain the rate at which this supply is being increased through growth; (3) to determine the rate at which this supply is being diminished through industrial and local use, and by fire, insects, disease, and other agencies; (4) to estimate the present requirements and the probable future trend in the requirements for timber and other forest products; and (5) to correlate these findings with existing and anticipated economic conditions, in order that policies may be formulated for the effective use of lands suitable for forest production.

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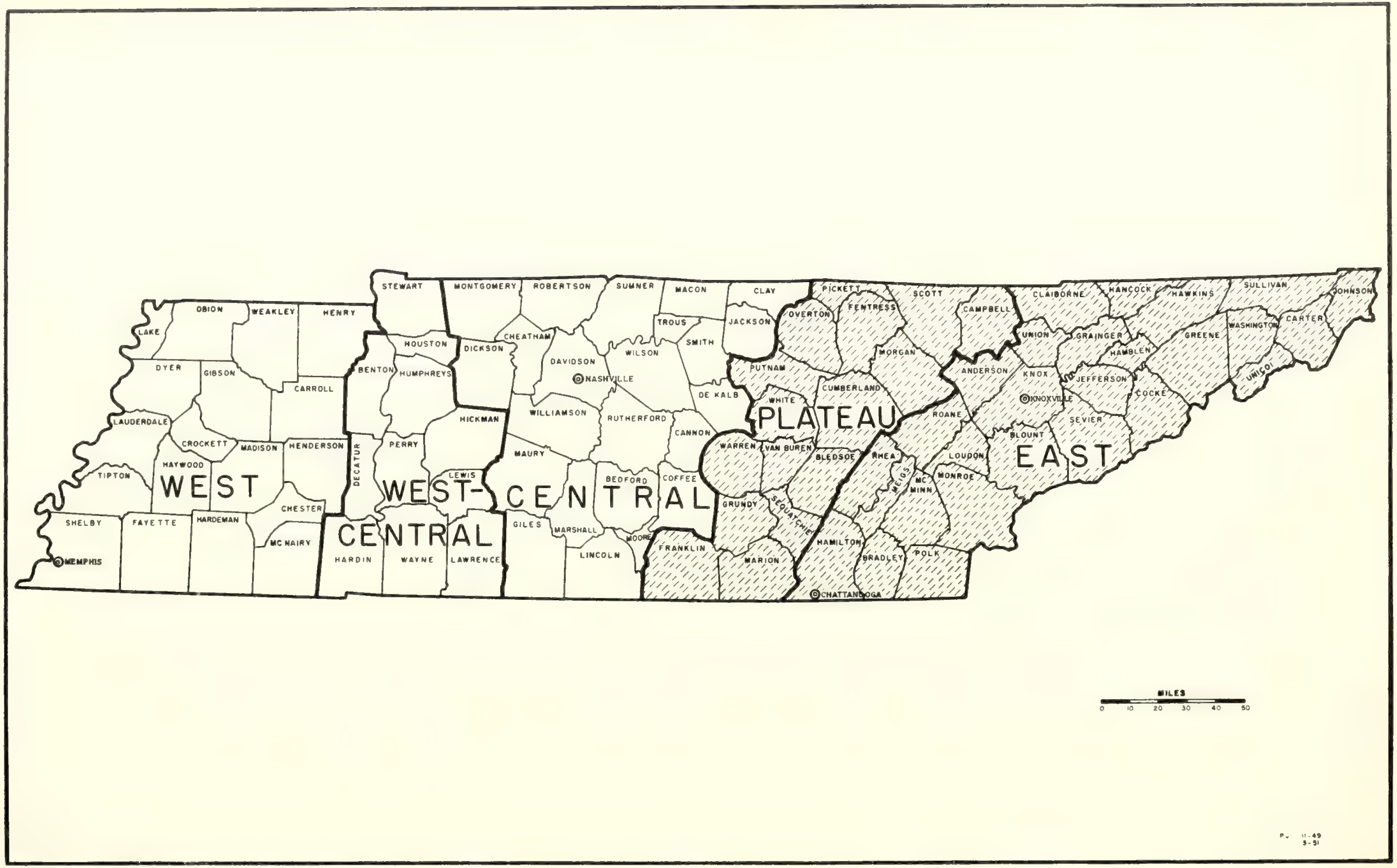


Figure 1.--Forest regions in Tennessee. (Regions included in this report are the shaded portions of the map.)

# FOREST STATISTICS FOR EASTERN TENNESSEE

This publication summarizes the data on forest acreage and timber volume collected by the Southern Forest Survey in east Tennessee and in the Plateau region of the State (figure 1). The survey was made between January and November 1950. The western and central portions of Tennessee were surveyed in 1948-49.

## Highlights

East Tennessee is made up of two physiographic areas--the Unaka and Smoky Mountains and the Great Valley. The mountains, which extend along the North Carolina line in a strip 2 to 20 miles wide, are rough and rugged. Most of the mountains remain a forested wilderness now in public ownership. The Great Valley, which flanks the Smokies, is 30 to 60 miles wide. Its floor is composed of a succession of minor valleys and ridges which rise 300 to 800 feet. Many of the slopes are steep and forested, although spotted with thousands of tiny "patch farms." In the valleys are found some deep soils and many prosperous farms. This is the most heavily industrialized region of the State, a reflection of the availability of a large variety of minerals and other raw materials and low-cost electric power and fuel. Of the $957.5 million of the gross income originating in manufacture in the State in 1947, about 40 percent was produced in this region alone. Chattanooga, Knoxville, and Kingsport are the principal manufacturing centers.

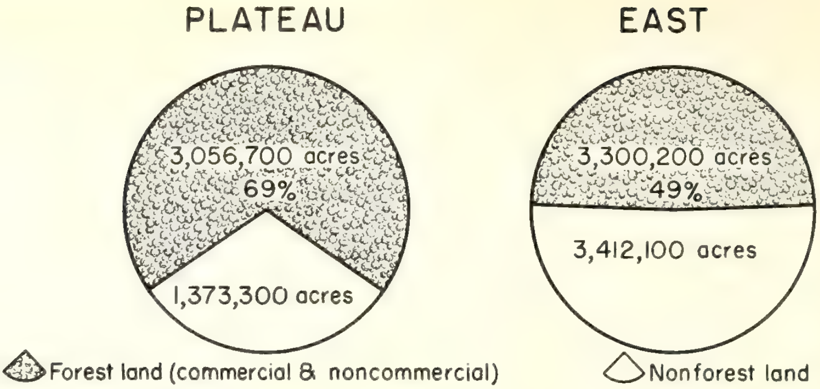
About half of the 6.7 million acres of land in east Tennessee is forested. With more than three-fourths of its forest well stocked, this region has the highest proportion of good stocking of any region in the State. Total growing stock amounts to 1,428 million cubic feet. Thirty-seven percent is softwood--principally southern pines, white pine, hemlock, and cedar--the largest regional concentration of softwoods in the State. Sawlog volume totals 3,095 million board feet in hardwood species, 1,835 in softwoods. On a per acre basis, hardwood types average 1,575 board feet of sawlog volume; softwoods types average 1,668 board feet.

The Plateau region takes in the Cumberland Plateau and most of the eastern Highland Rim. The Cumberland Plateau, averaging about 2,000 feet in elevation, rises a thousand feet above the Great Valley. This is the area which supplies most of Tennessee's coal, the State's most valuable mineral product. Its soils are mainly thin, porous, and unproductive for farming. The Highland Rim has a flat to rolling topography for the most part. Some of its soils are suited to crops, although they quickly need fertilizer; other soils found on the inner part of the Rim are among the poorest in the State.

# FOREST ACREAGE

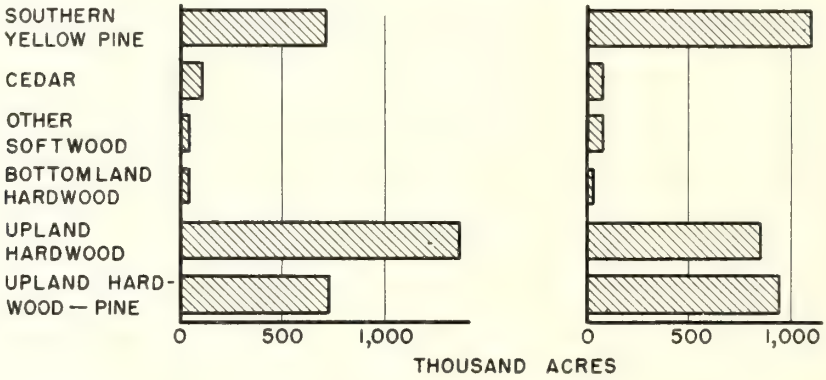
## FOREST LAND

The Plateau region is the most heavily forested area in the State.



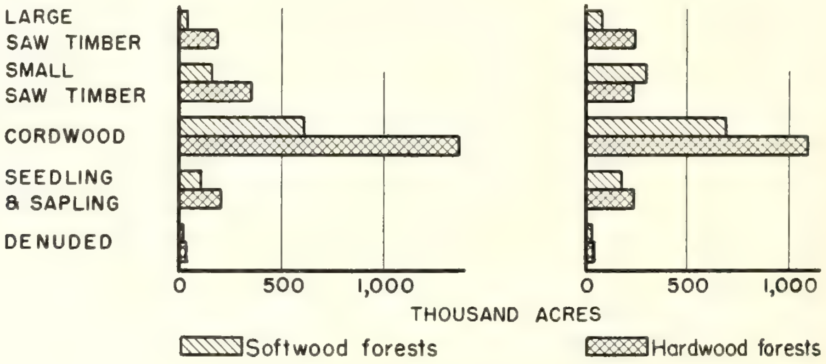
## FOREST TYPE

In both regions, upland hardwood types predominate; there is also a large acreage of southern yellow pine.



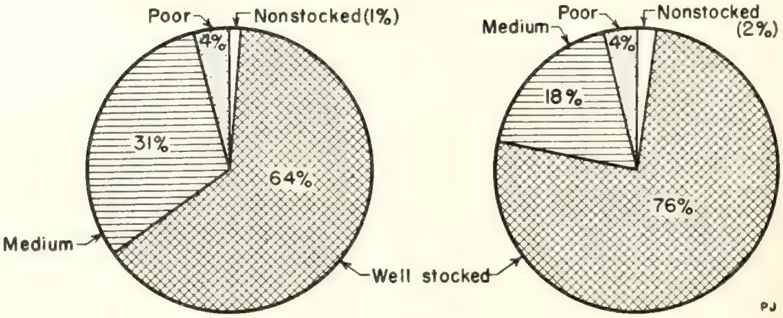
## STAND SIZE

Cordwood stands predominate in the hardwood and softwood forest types of both regions.



## FOREST STOCKING

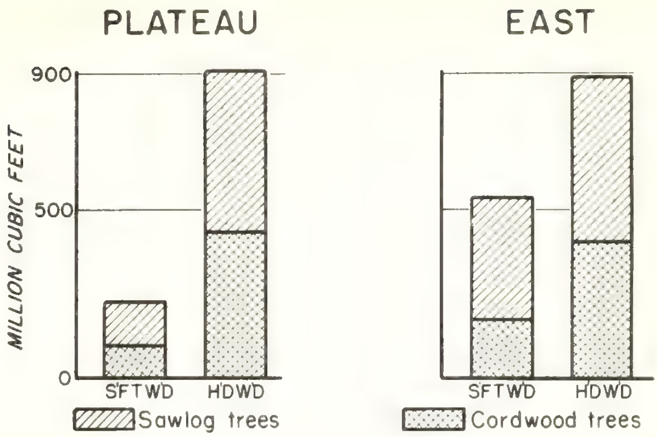
Considering all well formed trees, including established seedlings, more than two-thirds of the forest land is well stocked. East Tennessee has the best stocking in the entire State.



# TIMBER VOLUME

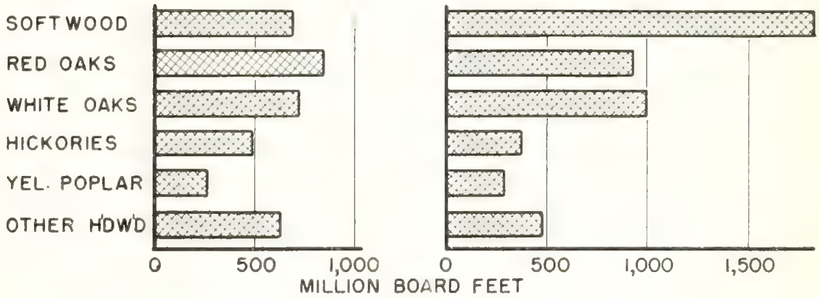
## TOTAL GROWING STOCK

Hardwoods make up 80 percent of the growing stock in the Plateau region, 63 percent in east Tennessee. More than half the total growing stock is in sawlog trees.



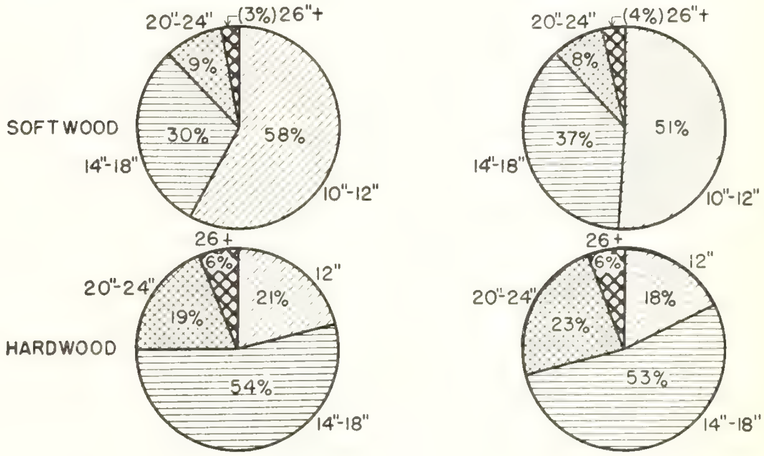
## SAWLOG VOLUME BY SPECIES GROUP

In terms of saw timber, oaks constitute the largest species group.



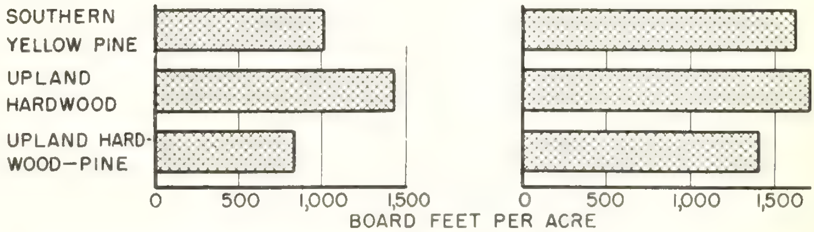
## SAWLOG VOLUME BY TREE DIAMETER

Hardwood sawlog volume is concentrated in the 14"-18" d.b.h. group in both regions; softwood in the 10"-12" group.



## SAWLOG VOLUME PER ACRE BY FOREST TYPE*

Considering only sawlog trees, all forest types are rather poorly stocked. The average is 1,201 bd.ft. per acre in the Plateau region and 1,613 bd. ft. per acre in east Tennessee



*Samples for types not shown are too small to be reliable

The Plateau region is the most heavily forested in the State; seven-tenths of its 4.4 million acres of land is forested. Total growing stock amounts to 1,132 million cubic feet, 80 percent of it hardwood. Sawlog volume totals 3,671 million board feet. It averages 1,241 board feet per acre in hardwood types; 1,108 board feet per acre in softwood types.

Definitions of terms used in this report will be found in the appendix.

## Accuracy of the Data

Data were obtained from a sampling of aerial photographs and from on-the-ground measurements on pairs of quarter-acre sample plots located every 3 miles on lines 3 miles apart throughout eastern Tennessee. Statistical analysis of the data for the two Survey regions indicates a sampling error of 1 percent for the estimate of total forest area, 3 percent for total cubic-foot volume, and 4 percent for total board-foot volume. As these totals are broken down by region, county, forest type, species, and other subdivisions, the possibility of error increases and is greatest for the smallest items.

The maximum sampling error to which the estimates are liable, on a probability of two chances out of three, is approximately as follows:

| Maximum sampling error in forest area | | Maximum sampling error in cubic-foot volume | | Maximum sampling error in board-foot volume | |
|---|---|---|---|---|---|
| Thousand acres | Percent error | Million cu. ft. | Percent error | Million bd. ft. | Percent error |
| 3,000 | 1 | 1,400 | 3 | 5,000 | 4 |
| 1,500 | 1 | 500 | 6 | 2,500 | 6 |
| 500 | 2 | 100 | 12 | 500 | 13 |
| 50 | 7 | 10 | 39 | 50 | 43 |

The estimates of sampling error do not include errors in volume tables, cull allowances, or other such measurements. Methods of estimating errors of this type have not been developed.

Table 1.--Forest and nonforest land area by Survey region, 1950

| Land use | Plateau | East |
|---|---|---|
| | Thousand acres | |
| Forest:[1] | | |
| Commercial | 3,056.7 | 3,057.5 |
| Reserved-commercial | ... | 242.7 |
| Total | 3,056.7 | 3,300.2 |
| Nonforest | 1,373.3 | 3,412.1 |
| All land | 4,430.0 | 6,712.3 |

[1] The acreage of forest land incapable of producing commercial timber is negligible.

Table 2.--Forest land by class of ownership and Survey region, 1950

| Class of ownership | Commercial forest | | | |
|---|---|---|---|---|
| | Plateau | | East | |
| | Thousand acres | Percent | Thousand acres | Percent |
| Private: | | | | |
| Farm[1] | 721.8 | 23.6 | 1,225.5 | 40.1 |
| Other | 2,152.8 | 70.4 | 1,118.2 | 36.6 |
| Total private | 2,874.6 | 94.0 | 2,343.7 | 76.7 |
| Public:[2] | | | | |
| National forest | ... | ... | 563.3 | 18.4 |
| T.V.A. | 20.5 | .7 | 108.1 | 3.5 |
| Other federal | 11.6 | .4 | 34.1 | 1.1 |
| State | 148.5 | 4.9 | 3.0 | .1 |
| County and municipal | 1.5 | (3/) | 5.3 | .2 |
| Total public | 182.1 | 6.0 | 713.8 | 23.3 |
| All ownership | 3,056.7 | 100.0 | 3,057.5 | 100.0 |

[1] Based on 1945 Census of Agriculture.
[2] Compiled in 1949.
[3] Negligible.

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The maximum sampling error to which the estimates are liable, on a probability of two chances out of three, is approximately as follows:

| Maximum sampling error in forest area | | Maximum sampling error in cubic-foot volume | | Maximum sampling error in board-foot volume | |
|---|---|---|---|---|---|
| Thousand acres | Percent error | Million cu. ft. | Percent error | Million bd. ft. | Percent error |
| 3,000 | 1 | 1,400 | 3 | 5,000 | 4 |
| 1,500 | 1 | 500 | 6 | 2,500 | 6 |
| 500 | 2 | 100 | 12 | 500 | 13 |
| 50 | 7 | 10 | 39 | 50 | 43 |

The estimates of sampling error do not include errors in volume tables, cull allowances, or other such measurements. Methods of estimating errors of this type have not been developed.

Table 3.--Land area and commercial forest by county, 1950[1] (continued)

| County | All land | Commercial forest | |
|---|---|---|---|
| | Thousand acres | Thousand acres | Percent |
| Sullivan | 273.9 | 94.3 | 34.4 |
| Unicoi | 118.4 | 87.9 | 74.2 |
| Union | 135.7 | 71.8 | 52.9 |
| Van Buren | 163.2 | 134.7 | 82.5 |
| Warren | 282.9 | 120.3 | 42.5 |
| Washington | 209.3 | 67.9 | 32.4 |
| White | 246.4 | 121.6 | 49.4 |

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[1] County data on sawlog and total growing stock, suitable for combining into county groups, are available as a supplement to this release.

Table 4.--Commercial forest land by stand size and forest type, by Survey region, 1950

| Forest type | All stand sizes | Large saw timber | Small saw timber | Cordwood | Seedling and sapling | Denuded |
|---|---|---|---|---|---|---|
| | Thousand acres | | | | | |
| | | | PLATEAU | | | |
| Softwood types: | | | | | | |
| Southern yellow pine | 787.4 | 17.4 | 145.7 | 527.1 | 85.7 | 11.5 |
| Cedar | 97.7 | 7.8 | ... | 72.4 | 17.5 | ... |
| Other softwood | 38.7 | 8.3 | 8.2 | 16.9 | 5.3 | ... |
| Total | 923.8 | 33.5 | 153.9 | 616.4 | 108.5 | 11.5 |
| Hardwood types: | | | | | | |
| Bottomland hardwood | 37.3 | 13.4 | 5.8 | 18.1 | ... | ... |
| Upland hardwood | 1,367.5 | 144.7 | 254.9 | 857.6 | 100.5 | 9.8 |
| Upland hardwood-pine | 728.1 | 22.5 | 89.1 | 494.8 | 105.4 | 16.3 |
| Total | 2,132.9 | 180.6 | 349.8 | 1,370.5 | 205.9 | 26.1 |
| All types | 3,056.7 | 214.1 | 503.7 | 1,986.9 | 314.4 | 37.6 |
| | | | EAST | | | |
| Softwood types: | | | | | | |
| Southern yellow pine | 1,103.7 | 52.1 | 268.7 | 624.3 | 142.0 | 16.6 |
| Cedar | 69.7 | ... | 3.5 | 32.2 | 28.0 | 6.0 |
| Other softwood | 69.4 | 18.2 | 19.6 | 29.2 | 2.4 | ... |
| Total | 1,242.8 | 70.3 | 291.8 | 685.7 | 172.4 | 22.6 |
| Hardwood types: | | | | | | |
| Bottomland hardwood | 12.5 | 5.0 | 2.5 | 2.5 | 2.5 | ... |
| Upland hardwood | 857.0 | 137.9 | 95.6 | 500.2 | 113.7 | 9.6 |
| Upland hardwood-pine | 945.2 | 94.7 | 129.6 | 588.4 | 116.5 | 16.0 |
| Total | 1,814.7 | 237.6 | 227.7 | 1,091.1 | 232.7 | 25.6 |
| All types | 3,057.5 | 307.9 | 519.5 | 1,776.8 | 405.1 | 48.2 |

Table 5.--Commercial forest land by degree of tree stocking and forest type, by Survey region, 1950

| Forest type | All stocking | Well stocked | Medium stocked | Poorly stocked | Non-stocked |
|---|---|---|---|---|---|
| | Thousand acres | | | | |
| | | | PLATEAU | | |
| Softwood types: | | | | | |
| Southern yellow pine | 787.4 | 495.2 | 236.4 | 44.3 | 11.5 |
| Cedar | 97.7 | 53.3 | 32.0 | 12.4 | ... |
| Other softwood | 38.7 | 13.8 | 18.7 | 6.2 | ... |
| Total | 923.8 | 562.3 | 287.1 | 62.9 | 11.5 |
| Hardwood types: | | | | | |
| Bottomland hardwood | 37.3 | 18.6 | 18.7 | ... | ... |
| Upland hardwood | 1,367.5 | 913.1 | 413.4 | 31.2 | 9.8 |
| Upland hardwood-pine | 728.1 | 433.3 | 237.7 | 40.8 | 16.3 |
| Total | 2,132.9 | 1,365.0 | 669.8 | 72.0 | 26.1 |
| All types | 3,056.7 | 1,927.3 | 956.9 | 134.9 | 37.6 |
| | | | EAST | | |
| Softwood types: | | | | | |
| Southern yellow pine | 1,103.7 | 843.8 | 197.5 | 45.8 | 16.6 |
| Cedar | 69.7 | 39.6 | 21.8 | 2.3 | 6.0 |
| Other softwood | 69.4 | 46.7 | 14.0 | 8.7 | ... |
| Total | 1,242.8 | 930.1 | 233.3 | 56.8 | 22.6 |
| Hardwood types: | | | | | |
| Bottomland hardwood | 12.5 | 10.0 | 2.5 | ... | ... |
| Upland hardwood | 857.0 | 681.1 | 146.8 | 19.5 | 9.6 |
| Upland hardwood-pine | 945.2 | 732.3 | 160.2 | 36.7 | 16.0 |
| Total | 1,814.7 | 1,423.4 | 309.5 | 56.2 | 25.6 |
| All types | 3,057.5 | 2,353.5 | 542.8 | 113.0 | 48.2 |

Table 6.--Area of saw-timber stands by stand quality and forest type, by Survey region, 1950

| Forest type | All qualities | Fair or better | Poor |
|---|---|---|---|
| | - - - - - Thousand acres | - - - - - | |
| | | PLATEAU | |
| Softwood types: | | | |
| Southern yellow pine | 163.1 | 52.8 | 110.3 |
| Cedar | 7.8 | 5.2 | 2.6 |
| Other softwood | 16.5 | 5.6 | 10.9 |
| Total | 187.4 | 63.6 | 123.8 |
| Hardwood types: | | | |
| Bottomland hardwood | 19.2 | 11.3 | 7.9 |
| Upland hardwood | 399.6 | 196.9 | 202.7 |
| Upland hardwood-pine | 111.6 | 31.2 | 80.4 |
| Total | 530.4 | 239.4 | 291.0 |
| All types | 717.8 | 303.0 | 414.8 |
| | | EAST | |
| Softwood types: | | | |
| Southern yellow pine | 320.8 | 105.9 | 214.9 |
| Cedar | 3.5 | 3.5 | ... |
| Other softwood | 37.8 | 8.6 | 29.2 |
| Total | 362.1 | 118.0 | 244.1 |
| Hardwood types: | | | |
| Bottomland hardwood | 7.5 | 2.5 | 5.0 |
| Upland hardwood | 233.5 | 158.3 | 75.2 |
| Upland hardwood-pine | 224.3 | 126.3 | 98.0 |
| Total | 465.3 | 287.1 | 178.2 |
| All types | 827.4 | 405.1 | 422.3 |

Table 7.--Basal area per acre of growing stock[1] and cull trees by forest-type group and Survey region, 1950

| Forest type | Plateau | East |
|---|---|---|
| | Square feet | |
| Softwood types: | | |
| Growing stock | 42.9 | 53.0 |
| Cull trees | 10.5 | 7.2 |
| Total | 53.4 | 60.2 |
| Bottomland hardwood: | | |
| Growing stock | 56.3 | 73.8 |
| Cull trees | 28.3 | 14.6 |
| Total | 84.6 | 88.4 |
| Upland hardwood:[2] | | |
| Growing stock | 40.1 | 47.8 |
| Cull trees | 14.8 | 11.6 |
| Total | 54.9 | 59.4 |
| All types: | | |
| Growing stock | 41.1 | 50.1 |
| Cull trees | 13.7 | 9.8 |
| Total | 54.8 | 59.9 |

[1] Includes sound, well-formed 2- and 4-inch trees.

[2] Includes upland hardwood-pine.

Table 8.--Total volume by class of timber and species, by Survey region, 1950

| Species | All timber 1/ | Growing stock |  |  |  |  | Tops and limbs | Cull trees |
|---|---|---|---|---|---|---|---|---|
|  |  | All trees | Sawlog trees |  | Cordwood trees |  |  |  |
|  |  |  | Sawlog portions | Tops |  |  |  |  |
|  | - - - - - - - - Million cubic feet - - - - - - - - |  |  |  |  |  |  |  |
|  |  |  |  | PLATEAU |  |  |  |  |
| Softwood: |  |  |  |  |  |  |  |  |
| Southern pines | 192.6 | 187.4 | 94.8 | 13.0 | 79.6 |  | ... | 5.2 |
| Cedar | 9.0 | 8.4 | 3.1 | .5 | 4.8 |  | ... | .6 |
| White pine | 9.5 | 9.3 | 5.0 | .8 | 3.5 |  | ... | .2 |
| Hemlock | 24.1 | 22.8 | 17.9 | 2.4 | 2.5 |  | ... | 1.3 |
| Total | 235.2 | 227.9 | 120.8 | 16.7 | 90.4 |  | ... | 7.3 |
| Hardwood: |  |  |  |  |  |  |  |  |
| Red oaks | 421.1 | 249.9 | 133.0 | ... | 116.9 |  | 80.0 | 91.2 |
| White oaks | 451.3 | 246.8 | 116.1 | ... | 130.7 |  | 73.3 | 131.2 |
| Hickories | 244.4 | 162.1 | 79.4 | ... | 82.7 |  | 43.1 | 39.2 |
| Yellow-poplar | 91.6 | 65.0 | 41.8 | ... | 23.2 |  | 18.5 | 8.1 |
| Sweetgum | 9.3 | 6.8 | 2.4 | ... | 4.4 |  | 1.4 | 1.1 |
| Black & tupelo gums | 85.6 | 36.9 | 27.5 | ... | 9.4 |  | 16.8 | 31.9 |
| Other hardwoods | 318.2 | 137.0 | 68.9 | ... | 68.1 |  | 42.9 | 138.3 |
| Total | 1,621.5 | 904.5 | 469.1 | ... | 435.4 |  | 276.0 | 441.0 |
| All species | 1,856.7 | 1,132.4 | 589.9 | 16.7 | 525.8 |  | 276.0 | 448.3 |

Table 8.--Total volume by class of timber and species, by Survey region, 1950 (continued)

| Species | All timber[1] | Growing stock | | | | Tops and limbs | Cull trees |
|---|---|---|---|---|---|---|---|
| | | All trees | Sawlog trees | | Cordwood trees | | |
| | | | Sawlog portions | Tops | | | |
| | - - - - - - - - | - - - - | Million cubic feet | - - - - | - - - - | - - - - | - - - - |
| | | | | EAST | | | |
| Softwood: | | | | | | | |
| Southern pines | 451.7 | 446.3 | 257.7 | 33.5 | 155.1 | ... | 5.4 |
| Cedar | 11.6 | 10.9 | 4.0 | .7 | 6.2 | ... | .7 |
| White pine | 45.7 | 43.9 | 33.3 | 4.3 | 6.3 | ... | 1.8 |
| Hemlock | 34.6 | 30.9 | 23.2 | 2.9 | 4.8 | ... | 3.7 |
| Total | 543.6 | 532.0 | 318.2 | 41.4 | 172.4 | ... | 11.6 |
| Hardwood: | | | | | | | |
| Red oaks | 388.4 | 236.2 | 146.9 | ... | 89.3 | 84.5 | 67.7 |
| White oaks | 459.4 | 271.5 | 158.4 | ... | 113.1 | 97.7 | 90.2 |
| Hickories | 168.3 | 111.5 | 61.2 | ... | 50.3 | 32.0 | 24.8 |
| Yellow-poplar | 124.2 | 96.6 | 45.6 | ... | 51.0 | 20.4 | 7.2 |
| Sweetgum | 11.7 | 7.9 | 3.1 | ... | 4.8 | 1.9 | 1.9 |
| Black and tupelo gums | 46.4 | 23.2 | 12.1 | ... | 11.1 | 7.5 | 15.7 |
| Other hardwoods | 291.0 | 149.5 | 62.8 | ... | 86.7 | 35.8 | 105.7 |
| Total | 1,489.4 | 896.4 | 490.1 | ... | 406.3 | 279.8 | 313.2 |
| All species | 2,033.0 | 1,428.4 | 808.3 | 41.4 | 578.7 | 279.8 | 324.8 |

[1] Sound volume in dead trees considered salvagable is not included. This volume is as follows:

| Region | Chestnut | Other species |
|---|---|---|
| | (Million cubic feet) | |
| Plateau | 13.3 | 8.7 |
| East | 19.1 | 4.6 |

Table 9.--Total growing stock by species and stand size, by Survey region, 1950

| Species | All stand sizes | Large saw timber | Small saw timber | Cordwood | Seedling and sapling | Denuded |
|---|---|---|---|---|---|---|
| | - - - - - - - - - - | - - - - - Million cubic feet | - - - - | | | |
| | | | | PLATEAU | | |
| Softwood: | | | | | | |
| Southern pines | 187.4 | 7.8 | 87.9 | 89.0 | 2.5 | 0.2 |
| Cedar | 8.4 | 3.3 | .5 | 4.1 | .5 | ... |
| White pine | 9.3 | ... | 4.3 | 4.7 | .3 | ... |
| Hemlock | 22.8 | 11.7 | 4.6 | 4.2 | 2.0 | .3 |
| Total | 227.9 | 22.8 | 97.3 | 102.0 | 5.3 | .5 |
| Hardwood: | | | | | | |
| Red oaks | 249.9 | 39.4 | 66.2 | 140.9 | 3.4 | ... |
| White oaks | 246.8 | 32.4 | 61.2 | 147.5 | 5.7 | ... |
| Hickories | 162.1 | 19.6 | 45.0 | 94.6 | 2.8 | .1 |
| Yellow-poplar | 65.0 | 11.0 | 25.0 | 28.0 | 1.0 | ... |
| Sweetgum | 6.8 | .5 | .9 | 5.2 | .2 | ... |
| Black & tupelo gums | 36.9 | 11.8 | 8.0 | 16.8 | .3 | ... |
| Other hardwoods | 137.0 | 40.3 | 38.5 | 55.3 | 2.5 | .4 |
| Total | 904.5 | 155.0 | 244.8 | 488.3 | 15.9 | .5 |
| All species | 1,132.4 | 177.8 | 342.1 | 590.3 | 21.2 | 1.0 |
| | | | | EAST | | |
| Softwood: | | | | | | |
| Southern pines | 446.3 | 40.7 | 205.2 | 191.8 | 8.3 | .3 |
| Cedar | 10.9 | 1.8 | 1.5 | 7.6 | ... | ... |
| White pine | 43.9 | 19.9 | 11.6 | 12.4 | ... | ... |
| Hemlock | 30.9 | 11.5 | 11.2 | 7.0 | 1.2 | ... |
| Total | 532.0 | 73.9 | 229.5 | 218.8 | 9.5 | .3 |
| Hardwood: | | | | | | |
| Red oaks | 236.2 | 75.3 | 52.5 | 106.1 | 2.3 | ... |
| White oaks | 271.5 | 76.1 | 63.2 | 126.0 | 5.9 | .3 |
| Hickories | 111.5 | 25.9 | 27.5 | 56.4 | 1.7 | ... |
| Yellow-poplar | 96.6 | 18.1 | 27.1 | 50.4 | 1.0 | ... |
| Sweetgum | 7.9 | 1.4 | 3.2 | 3.1 | .2 | ... |
| Black & tupelo gums | 23.2 | 3.3 | 5.9 | 13.7 | .3 | ... |
| Other hardwoods | 149.5 | 31.2 | 35.8 | 78.9 | 3.6 | ... |
| Total | 896.4 | 231.3 | 215.2 | 434.6 | 15.0 | .3 |
| All species | 1,428.4 | 305.2 | 444.7 | 653.4 | 24.5 | .6 |

Table 10.--Total growing stock by species and Survey region, 1950

| Species | Plateau | East |
|---|---|---|
|  | Million cubic feet |  |
| Softwood: |  |  |
| Shortleaf pine | 123.9 | 198.2 |
| Virginia pine | 63.2 | 170.9 |
| Other southern pines | .3 | 77.2 |
| Cedar | 8.4 | 10.9 |
| White pine | 9.3 | 43.9 |
| Hemlock | 22.8 | 30.9 |
| Total | 227.9 | 532.0 |
| Hardwood: |  |  |
| Black, scarlet, and southern red oaks | 188.9 | 187.9 |
| Cherrybark, Shumard, and northern red oaks | 53.4 | 45.6 |
| Water oaks | 7.6 | 2.7 |
| White oak | 114.6 | 119.8 |
| Other white oaks | 132.2 | 151.7 |
| Hickories | 162.1 | 111.5 |
| Yellow-poplar | 65.0 | 96.6 |
| Sweetgum | 6.8 | 7.9 |
| Black and tupelo gums | 36.9 | 23.2 |
| Elms | 11.3 | 7.9 |
| Soft maples | 25.7 | 30.2 |
| Sugar maple | 21.1 | 9.3 |
| Ash | 10.1 | 15.5 |
| Beech | 19.2 | 10.2 |
| Walnut | 7.9 | 16.8 |
| Sycamore | 5.5 | 1.7 |
| Hackberry | .6 | 1.2 |
| Other hardwoods | 35.6 | 56.7 |
| Total | 904.5 | 896.4 |
| All species | 1,132.4 | 1,428.4 |

Table 11.--Average volume per acre of total growing stock by forest type and Survey region, 1950

| Forest type | Plateau | East |
|---|---|---|
| | Cubic feet | |
| Softwood types: | | |
| Southern yellow pine | 364 | 516 |
| Cedar | (1/) | (1/) |
| Other softwood | (1/) | (1/) |
| Total | 368 | 513 |
| Hardwood types: | | |
| Bottomland hardwood | (1/) | (1/) |
| Upland hardwood | 402 | 451 |
| Upland hardwood-pine | 301 | 416 |
| Total | 371 | 436 |
| All types | 370 | 467 |

1/ Sample too small to be reliable.

Table 12.--Sawlog volume by species and tree diameter, by Survey region, 1950

| Species | All diameter classes | 10-12 inches[1] | 14-18 inches | 20-24 inches | 26 inches and up |
|---|---|---|---|---|---|
| | Million board feet | | | | |
| | | | PLATEAU | | |
| Softwood: | | | | | |
| Southern pines | 534.3 | 354.1 | 161.8 | 9.2 | 9.2 |
| Cedar | 17.6 | 14.6 | 3.0 | ... | ... |
| White pine | 28.8 | 15.8 | 13.0 | ... | ... |
| Hemlock | 113.6 | 18.1 | 30.6 | 55.9 | 9.0 |
| Total | 694.3 | 402.6 | 208.4 | 65.1 | 18.2 |
| Hardwood: | | | | | |
| Red oaks | 849.4 | 185.8 | 470.5 | 168.7 | 24.4 |
| White oaks | 726.3 | 169.3 | 380.3 | 135.6 | 41.1 |
| Hickories | 494.1 | 121.6 | 272.0 | 68.7 | 31.8 |
| Yellow-poplar | 273.1 | 56.2 | 146.7 | 49.3 | 20.9 |
| Sweetgum | 14.8 | 6.6 | 8.2 | ... | ... |
| Black & tupelo gums | 176.1 | 21.6 | 90.9 | 46.1 | 17.5 |
| Other hardwoods | 442.7 | 77.2 | 218.0 | 90.2 | 57.3 |
| Total | 2,976.5 | 638.3 | 1,586.6 | 558.6 | 193.0 |
| All species | 3,670.8 | 1,040.9 | 1,795.0 | 623.7 | 211.2 |
| | | | EAST | | |
| Softwood: | | | | | |
| Southern pines | 1,448.7 | 818.9 | 564.2 | 65.6 | ... |
| Cedar | 23.0 | 16.3 | 4.3 | 2.4 | ... |
| White pine | 215.2 | 49.0 | 80.9 | 63.2 | 22.1 |
| Hemlock | 148.0 | 36.2 | 35.0 | 16.6 | 60.2 |
| Total | 1,834.9 | 920.4 | 684.4 | 147.8 | 82.3 |
| Hardwood: | | | | | |
| Red oaks | 935.2 | 136.2 | 505.4 | 234.4 | 59.2 |
| White oaks | 1,003.3 | 166.2 | 508.6 | 249.5 | 79.0 |
| Hickories | 378.8 | 71.9 | 222.2 | 76.2 | 8.5 |
| Yellow-poplar | 293.9 | 76.6 | 144.2 | 59.5 | 13.6 |
| Sweetgum | 19.9 | 2.6 | 6.7 | 10.6 | ... |
| Black & tupelo gums | 72.1 | 12.9 | 36.5 | 22.7 | ... |
| Other hardwoods | 392.3 | 82.1 | 226.1 | 55.7 | 28.4 |
| Total | 3,095.5 | 548.5 | 1,649.7 | 708.6 | 188.7 |
| All species | 4,930.4 | 1,468.9 | 2,334.1 | 856.4 | 271.0 |

[1] Hardwood sawlog volume not tallied in trees under 11.0 inches d.b.h.

Table 13.--Sawlog volume by species and stand-size, by Survey region, 1950.

| Species | All stand-sizes | Large saw timber | Small saw timber | Cordwood | Seedling and sapling | Denuded |
|---|---|---|---|---|---|---|
| | Million board feet | | | | | |
| | PLATEAU | | | | | |
| Softwood: | | | | | | |
| Southern pines | 534.3 | 39.0 | 306.6 | 180.8 | 7.2 | 0.7 |
| Cedar | 17.6 | 11.8 | .5 | 4.0 | 1.3 | ... |
| White pine | 28.8 | ... | 12.0 | 15.5 | 1.3 | ... |
| Hemlock | 113.6 | 65.2 | 23.1 | 11.9 | 11.7 | 1.7 |
| Total | 694.3 | 116.0 | 342.2 | 212.2 | 21.5 | 2.4 |
| Hardwood: | | | | | | |
| Red oaks | 849.4 | 243.4 | 268.6 | 331.7 | 5.7 | ... |
| White oaks | 726.3 | 180.9 | 210.8 | 316.4 | 18.2 | ... |
| Hickories | 494.1 | 103.2 | 158.7 | 224.7 | 7.5 | ... |
| Yellow-poplar | 273.1 | 68.7 | 129.7 | 73.0 | 1.7 | ... |
| Sweetgum | 14.8 | ... | 4.6 | 10.2 | ... | ... |
| Black & tupelo gums | 176.1 | 75.3 | 38.4 | 61.1 | 1.3 | ... |
| Other hardwoods | 442.7 | 201.9 | 131.3 | 104.4 | 5.1 | ... |
| Total | 2,976.5 | 873.4 | 942.1 | 1,121.5 | 39.5 | ... |
| All species | 3,670.8 | 989.4 | 1,284.3 | 1,333.7 | 61.0 | 2.4 |
| | EAST | | | | | |
| Softwood: | | | | | | |
| Southern pines | 1,448.7 | 199.8 | 772.1 | 448.0 | 28.2 | 0.6 |
| Cedar | 23.0 | 6.2 | 3.5 | 13.3 | ... | ... |
| White pine | 215.2 | 116.4 | 53.4 | 45.4 | ... | ... |
| Hemlock | 148.0 | 69.0 | 51.0 | 22.9 | 5.1 | ... |
| Total | 1,834.9 | 391.4 | 880.0 | 529.6 | 33.3 | .6 |
| Hardwood: | | | | | | |
| Red oaks | 935.2 | 435.6 | 216.5 | 277.5 | 5.6 | ... |
| White oaks | 1,003.3 | 423.1 | 226.7 | 329.5 | 23.0 | 1.0 |
| Hickories | 378.8 | 111.8 | 95.8 | 161.2 | 10.0 | ... |
| Yellow-poplar | 293.9 | 79.0 | 98.4 | 115.8 | .7 | ... |
| Sweetgum | 19.9 | 5.2 | 11.5 | 2.2 | 1.0 | ... |
| Black & tupelo gums | 72.1 | 18.7 | 21.8 | 30.4 | 1.2 | ... |
| Other hardwoods | 392.3 | 135.7 | 99.4 | 154.0 | 3.2 | ... |
| Total | 3,095.5 | 1,209.1 | 770.1 | 1,070.6 | 44.7 | 1.0 |
| All species | 4,930.4 | 1,600.5 | 1,650.1 | 1,600.2 | 78.0 | 1.6 |

Table 14.--Sawlog volume by species and Survey region, 1950

| Species | Plateau | East |
|---|---|---|
| | Million board feet | |
| Softwood: | | |
| Shortleaf pine | 386.1 | 678.1 |
| Virginia pine | 147.2 | 511.0 |
| Other southern pines | 1.0 | 259.6 |
| Cedar | 17.6 | 23.0 |
| White pine | 28.8 | 215.2 |
| Hemlock | 113.6 | 148.0 |
| Total | 694.3 | 1,834.9 |
| Hardwood: | | |
| Black, scarlet, and southern red oaks | 578.1 | 740.2 |
| Cherrybark, Shumard, and northern red oaks | 234.0 | 184.7 |
| Water oaks | 37.3 | 10.3 |
| White oak | 321.5 | 501.6 |
| Other white oaks | 404.8 | 501.7 |
| Hickories | 494.1 | 378.8 |
| Yellow-poplar | 273.1 | 293.9 |
| Sweetgum | 14.8 | 19.9 |
| Black and tupelo gums | 176.1 | 72.1 |
| Elms | 36.4 | 35.2 |
| Soft maples | 42.3 | 48.1 |
| Sugar maple | 55.0 | 29.7 |
| Ash | 27.6 | 50.5 |
| Beech | 115.4 | 39.3 |
| Walnut | 20.4 | 66.1 |
| Sycamore | 23.4 | 5.5 |
| Hackberry | 1.4 | 5.0 |
| Other hardwoods | 120.8 | 112.9 |
| Total | 2,976.5 | 3,095.5 |
| All species | 3,670.8 | 4,930.4 |

Table 15.--Average sawlog volume per acre by forest type and Survey region, 1950

| Forest type | Plateau | East |
|---|---|---|
| | Board feet | |
| Softwood: | | |
| Southern yellow pine | 1,012 | 1,634 |
| Cedar | (1/) | (1/) |
| Other softwood | (1/) | (1/) |
| Total | 1,108 | 1,668 |
| Hardwood: | | |
| Bottomland hardwood | (1/) | (1/) |
| Upland hardwood | 1,429 | 1,724 |
| Upland hardwood-pine | 835 | 1,408 |
| Total | 1,241 | 1,575 |
| All types | 1,201 | 1,613 |

1/ Sample too small to be reliable.

Table 16.--Softwood sawlog volume by tree and stand quality, by Survey region, 1950

| Species group | All grades | Grade 1 | Grade 2 | Grade 3: In fair and better stands | Grade 3: In poor stands |
|---|---|---|---|---|---|
| | Million board feet | | | | |
| | | | PLATEAU | | |
| Shortleaf pine | 386.1 | 10.8 | 117.4 | 63.4 | 194.5 |
| Other southern pines | 148.2 | ... | ... | 9.9 | 138.3 |
| Other softwoods | 160.0 | 29.4 | 21.9 | 40.9 | 67.8 |
| Total | 694.3 | 40.2 | 139.3 | 114.2 | 400.6 |
| | | | EAST | | |
| Shortleaf pine | 678.1 | 159.4 | 144.4 | 58.4 | 315.9 |
| Other southern pines | 770.6 | 11.8 | 71.7 | 68.4 | 618.7 |
| Other softwoods | 386.2 | 18.9 | 50.6 | 61.1 | 255.6 |
| Total | 1,834.9 | 190.1 | 266.7 | 187.9 | 1,190.2 |

Table 17.--Hardwood sawlog volume by log and stand quality, by Survey region, 1950

| Species group | All grades | Grade 1 | Grade 2 | Grade 3 A |  |  | Grade 3 B |  |  |
|---|---|---|---|---|---|---|---|---|---|
|  |  |  |  | Total | In fair and better stands | In poor stands | Total | In fair and better stands | In poor stands |
|  | Million board feet |  |  |  |  |  |  |  |  |
|  | PLATEAU |  |  |  |  |  |  |  |  |
| Red oaks | 849.4 | 52.7 | 169.0 | 524.4 | 125.5 | 398.9 | 103.3 | 15.7 | 87.6 |
| White oaks | 726.3 | 70.5 | 176.5 | 447.5 | 95.2 | 352.3 | 31.8 | 6.9 | 24.9 |
| Hickories | 494.1 | 42.5 | 109.7 | 313.1 | 69.0 | 244.1 | 28.8 | 9.0 | 19.8 |
| Yellow-poplar | 273.1 | 15.3 | 57.6 | 154.3 | 51.7 | 102.6 | 45.9 | 10.2 | 35.7 |
| Sweetgum | 14.8 | ... | ... | 12.6 | ... | 12.6 | 2.2 | ... | 2.2 |
| Black and tupelo gums | 176.1 | 32.2 | 41.2 | 98.7 | 25.2 | 73.5 | 4.0 | 1.8 | 2.2 |
| Other hardwoods | 442.7 | 51.4 | 88.5 | 259.7 | 102.0 | 157.7 | 43.1 | 9.7 | 33.4 |
| Total | 2,976.5 | 264.6 | 642.5 | 1,810.3 | 468.6 | 1,341.7 | 259.1 | 53.3 | 205.8 |
|  | EAST |  |  |  |  |  |  |  |  |
| Red oaks | 935.2 | 82.3 | 239.4 | 488.4 | 193.2 | 295.2 | 125.1 | 41.8 | 83.3 |
| White oaks | 1,003.3 | 97.3 | 320.1 | 537.0 | 173.8 | 363.2 | 48.9 | 12.5 | 36.4 |
| Hickories | 378.8 | 28.0 | 86.4 | 238.0 | 81.8 | 156.2 | 26.4 | 4.7 | 21.7 |
| Yellow-poplar | 293.9 | 19.7 | 72.9 | 131.3 | 43.9 | 87.4 | 70.0 | 13.7 | 56.3 |
| Sweetgum | 19.9 | 2.0 | 6.0 | 4.2 | 1.5 | 2.7 | 7.7 | 1.2 | 6.5 |
| Black and tupelo gums | 72.1 | 3.1 | 23.6 | 41.7 | 16.4 | 25.3 | 3.7 | 2.0 | 1.7 |
| Other hardwoods | 392.3 | 32.2 | 79.6 | 259.8 | 104.7 | 155.1 | 20.7 | 3.9 | 16.8 |
| Total | 3,095.5 | 264.6 | 828.0 | 1,700.4 | 615.3 | 1,085.1 | 302.5 | 79.8 | 222.7 |

## Definition of Terms

### Forest Land

Forest land. Land which bears forest growth, or land from which the forest has been removed and which has not been put to other use. Each tract classed as forest is at least one acre in size.

Commercial forest land. Forest land bearing, or capable of bearing, timber of commercial quantity and quality, and not withdrawn from commercial timber use.

Reserved-commercial forest land. Forest land in public parks or preserves which qualifies as commercial forest land except that it is withdrawn from commercial timber use through statute, ordinance, or administrative order.

### Tree Species

Softwoods. Southern pines, principally shortleaf (*Pinus echinata*) and Virginia (*P. virginiana*); eastern white pine (*P. strobus*); hemlock (*Tsuga canadensis*); eastern redcedar (*Juniperus virginiana*); red spruce (*Picea rubra*); and Fraser fir (*Abies fraseri*).

Hardwoods. Broadleaved species, of which the most numerous genera or species are the oaks (*Quercus spp.*); hickories (*Carya spp.*); and yellow-poplar (*Liriodendron tulipifera*).

### Forest Type

Forest type is determined only from dominant and codominant growing stock and dominant and codominant smaller sound trees of good form.

Southern yellow pine. Stands in which southern pines comprise at least 25 percent of the trees.

Cedar. Stands in which eastern redcedar comprises at least 25 percent of the trees.

Other softwood. Stands in which softwood species other than southern pines or cedar comprise at least 25 percent of the trees. The principal species are eastern white pine and hemlock.

Bottomland hardwood. Stands in which bottomland hardwoods and cypress comprise 76 percent or more of the trees.

Upland hardwood. Stands in which upland hardwoods comprise 76 percent or more of the trees, and no pine is present.

Upland hardwood-pine. Stands in which upland hardwoods comprise 76 percent or more of the trees, and some pine is present.

## Class of Timber

Growing stock. Sawlog growing stock is the sawlog portion of sawlog trees. Total growing stock includes sawlog growing stock and upper stems of softwood sawlog trees and entire stems of cordwood trees to a minimum diameter of 4 inches inside bark.

Sawlog tree. A live, merchantable softwood 9.0 inches or larger in d.b.h., or a live, merchantable hardwood 11.0 inches or larger in d.b.h. To be merchantable, the tree must have at least a merchantable 12-foot butt log or 50 percent of its gross volume in merchantable logs.

Cordwood tree. A live tree 5.0 inches or larger in d.b.h., but smaller than sawlog size, which would become a sawlog tree if it should grow to sawlog size.

Cull tree. A live tree 5.0 inches or larger in d.b.h., which because of decay or sound defect fails to meet the specifications for a cordwood or sawlog tree.

Tops and limbs. Upper stems and limbs of hardwood sawlog trees between the top sawlog and a minimum diameter of 4 inches inside bark.

## Stand-size Class

Large saw timber. Stands having a net volume of at least 1,500 board feet per acre in sawlog trees and at least half of this volume in softwoods 15.0 inches d.b.h. and larger, and hardwoods 17.0 inches d.b.h. and larger.

Small saw timber. Stands which do not meet the specifications for large saw timber but which do contain a net volume of at least 1,500 board feet per acre in sawlog trees.

Cordwood. Stands below saw-timber specifications, with at least 10 percent of the growing space occupied by growing stock, and with at least 5 percent of the growing space occupied by cordwood trees.

Seedling and sapling. Stands that do not meet saw-timber and cordwood specifications in which at least 10 percent of the growing space is occupied by growing stock and smaller sound trees of commercial species, and with at least 5 percent of the space occupied by seedlings and saplings.

Denuded. Commercial forest land which does not qualify for any other stand-size class.

## Tree Stocking

Degree of stocking is determined by the ratio of the actual number of growing-stock and smaller sound trees of good form in the stand to the number of trees of the same size required to occupy the site fully (for best growth). Under this criterion, stands are well stocked when the percentage of full stocking is 70 or above, medium stocked when the percentage is 40 to 69, poorly stocked when the percentage is 10 to 39, and nonstocked when the percentage is under 10.

## Volume and Basal Area

Sawlog volume. Net volume in merchantable sawlogs in sawlog trees, measured by the International $\frac{1}{4}$-inch log rule.

Total volume. Volume of sound, usable wood in stems of softwoods and stems and branches of hardwoods between stump and minimum top diameter of 4 inches inside bark, measured in cubic feet.

Basal area. Cross-sectional area of trees at breast height, measured in square feet.

## Diameter

D.b.h. (diameter breast high). Tree diameter in inches, outside bark, measured at $4\frac{1}{2}$ feet above ground.

Diameter class. Each 2-inch diameter class includes diameters 1.0 inch below and 0.9 inch above the stated midpoint. E.g., the 12-inch class includes trees 11.0 up to and including 12.9 inches.

## Log and Tree Grade

Tree grades for softwoods:

Grade 1 (smooth[1] trees). Not less than 20 feet of clear bole and at least 40 percent of the merchantable length clear of limbs and knots in sections not less than 8 feet in length. All cedar sawlog trees were graded as No. 1.

Grade 2 (limby trees). Not less than 12 feet of clear bole and 25 to 39 percent of the merchantable length clear of limbs and knots in sections not less than 8 feet in length.

Grade 3 (rough trees). Merchantable trees below grade-2 specifications.

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[1] Except as noted in the case of cedar.

Log grades for hardwoods:[2]

Grade 1. Logs having five-sixths or more of their length on the 3 best faces in clear-cuttings not less than 3 feet long; they yield at least 65 percent of their volume in No. 1 common and better grades of lumber.

Grade 2. Logs having two-thirds to five-sixths of their entire length on the 3 best faces in clear-cuttings not less than 3 feet long; they yield at least 40 percent of their volume in No. 1 common and better grades of lumber.

Grade 3.--

--A. Logs below grade 2, having ½ or more of their entire length on the 3 best faces in clear-cuttings not less than 2 feet long; they yield at least 13 percent of their volume in No. 1 common and better grades of lumber.

--B. Logs which do not meet the clear-cutting requirements of 3 A or higher grades, but which are sound, reasonably straight, and without large knots or knot clusters; they are suitable for ties or low-grade structural timbers.

## Stand Quality

Fair and better. A stand in which grade 2 or better hardwood logs or softwood trees are present.

Poor. A stand in which no grade 2 hardwood logs or softwood trees are present.

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[2] For detailed external specifications of log grades used, see Forest Service Committee on Interim Hardwood Sawlog Grades, "Interim sawlog grades for southern hardwoods," Southern Forest Experiment Station, 9 pp., illus. Rev. 1948.

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# ARKANSAS TIMBER STANDS BEFORE AND AFTER CUTTING

by

Herbert S. Sternitzke and Lee M. James

A REPORT OF THE SOUTHERN FOREST SURVEY
William A. Duerr, In Charge

SOUTHERN FOREST EXPERIMENT STATION
Chas. A. Connaughton, Director
New Orleans, La.
FOREST SERVICE, U.S. DEPT. OF AGRICULTURE

# THE SOUTHERN FOREST SURVEY

The Southern Forest Survey, an activity of the Southern Forest Experiment Station, covers the seven States of the Station's territory--Alabama, Arkansas, Louisiana, Mississippi, Oklahoma, Tennessee, and Texas. This Survey is a part of the nation-wide Forest Survey authorized by the McSweeney-McNary Forest Research Act of 1928. Its five-fold purpose is (1) to take inventory of the supply of standing timber and other forest products; (2) to ascertain the rate at which this supply is being increased through growth; (3) to determine the rate at which this supply is being diminished through industrial and local use, and by fire, insects, disease, and other agencies; (4) to estimate the present requirements and the probable future trend in the requirements for timber and other forest products; and (5) to correlate these findings with existing and anticipated economic conditions, in order that policies may be formulated for the effective use of lands suitable for forest production.

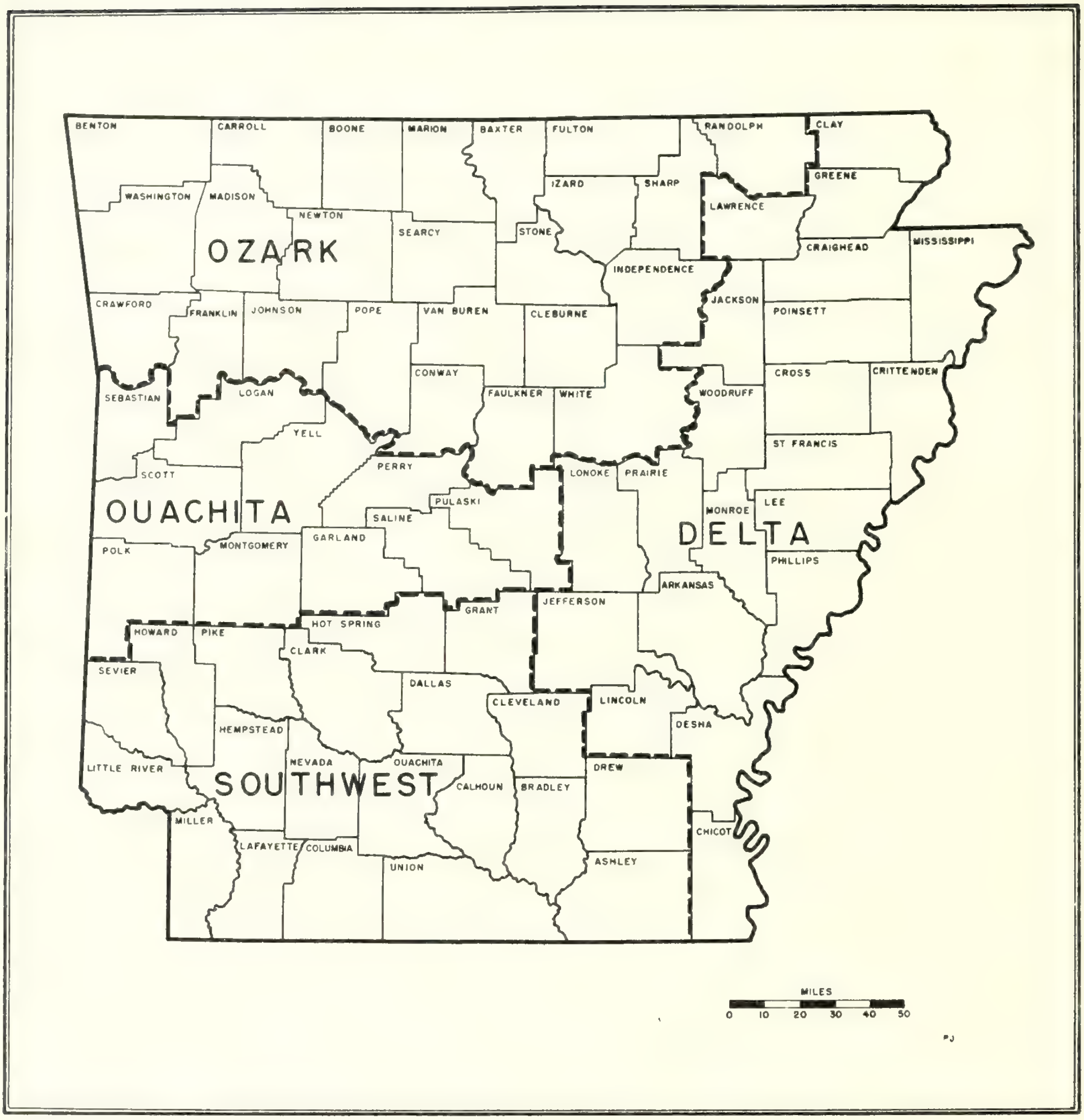

Figure 1.— Forest Survey regions in Arkansas.

# ARKANSAS TIMBER STANDS BEFORE AND AFTER CUTTING

Herbert S. Sternitzke and Lee M. James[1]
Southern Forest Experiment Station

To learn about cutting practices in Arkansas timber stands--the kind of stands selected for logging, the kind of trees cut, and the effect of cutting on the character of the forest--a survey of logging operations in the State was conducted in 1949-50.

On the average both pulpwood and sawlog operators take two-thirds of the pine growing stock.[2] Pine trees cut for sawlogs in southwest Arkansas average bigger than in the mountain regions, but stands are cut more heavily in the mountains. Large sawmill operators leave a heavier residual stand and take more of their cut from big trees than do the small mill operators.

Hardwood logging does not cut into stand volume as heavily as pine: volume removed ranges from one-fifth of the growing stock for hewn ties to half for veneer and sawlogs. Higher grade hardwood timber is cut more severely than lower grades. Hardwood timber cut in southwest Arkansas and the Delta is usually bigger than in the mountain regions, although the proportion of stand left after cutting is about the same in all regions. The contrast is less than in pine, but large hardwood sawmill operations also take bigger trees than small mill operations and leave more of the initial stand after logging.

Details of the findings are given in the charts on the following pages. A description of the field survey, an estimate of the sampling errors, and definitions of terms are on pages 13-15.

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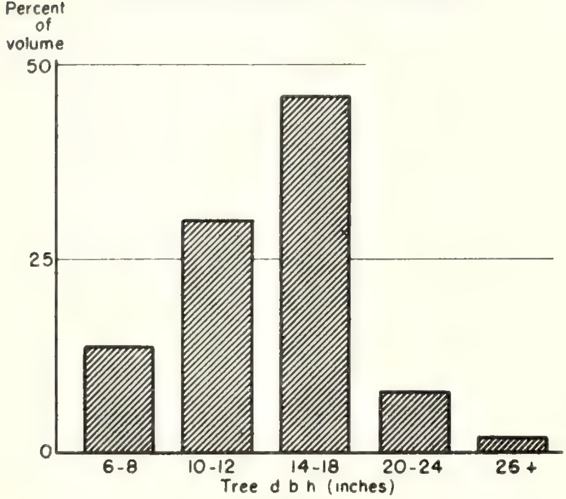
[1] Field data used in this report were collected by the authors and the following Southern Forest Survey personnel: J. L. Burkle, M.I. Hubbard, W. A. Johnson, Beryl O. Jones, and A. L. Tofte.

[2] Only growing stock is considered in this report. Except where sawlog growing stock is specified, the reference is to total cubic-foot growing stock.

# SAWLOG CUTTING IN PINE STANDS

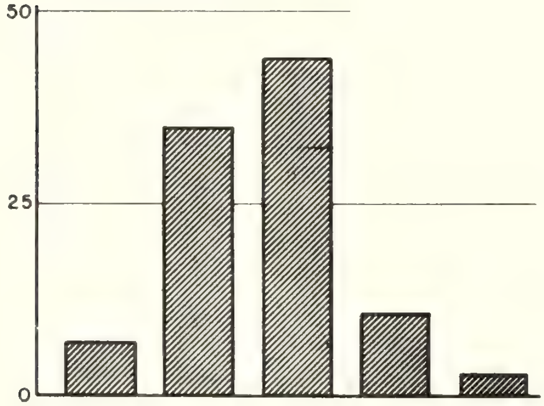
(Cubic-foot growing stock, by tree diameter)

STANDS BEFORE CUTTING



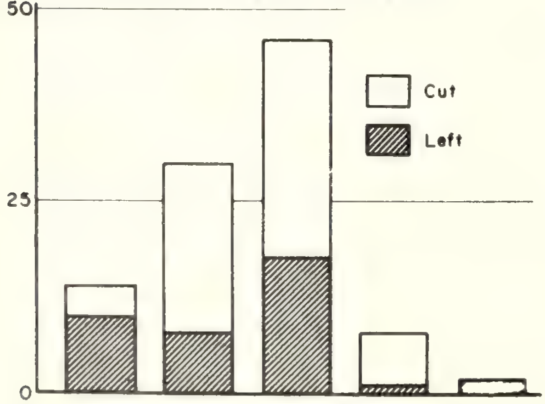
Stands selected for logging generally run to bigger trees than are found in the average pine stand.

TREES CUT



Despite the preference for large timber, small trees are usually merchantable for sawlogs. Four-tenths of the cut is in 6- to 12-inch trees.

STANDS AFTER CUTTING

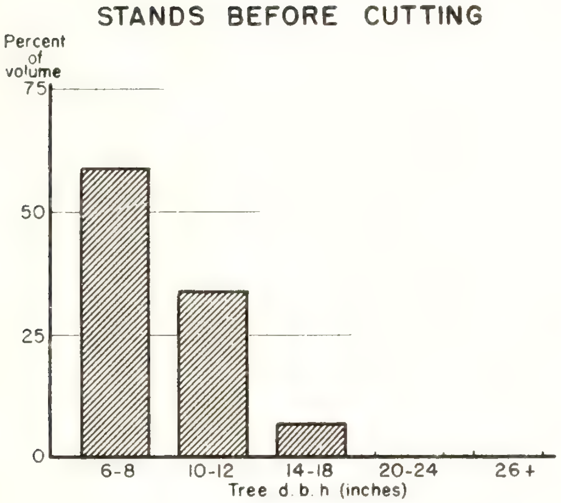


A third of the growing stock is left standing.

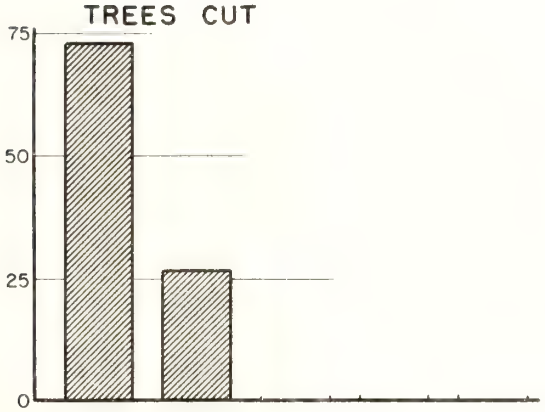
PJ 4-61

## PULPWOOD CUTTING IN PINE STANDS

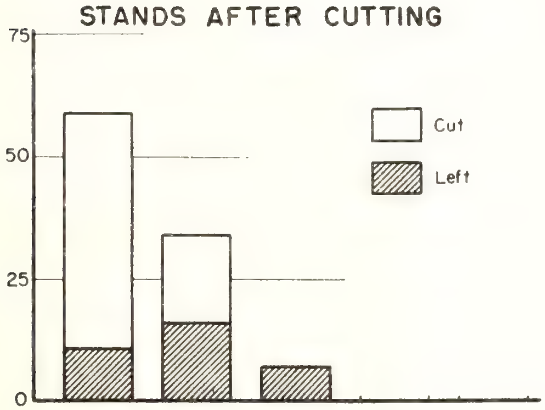
(Cubic-foot growing stock, by tree diameter)


STANDS BEFORE CUTTING

Most pulpwood is cut in stands of small timber.


TREES CUT

Logging and manufacturing considerations plus the usual earmarking of larger trees for sawlog cutting limit the size of trees cut for pulpwood.

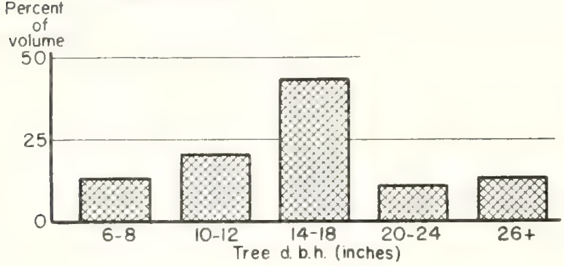

STANDS AFTER CUTTING

As in sawlog operations, a third of the total growing stock is left standing.

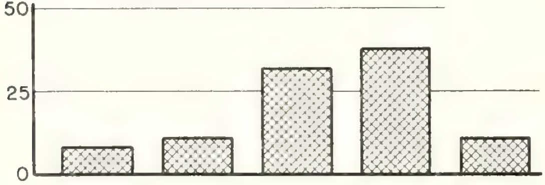
# HARDWOOD STANDS BEFORE CUTTING FOR—

(Cubic-foot growing stock, by tree diameter)

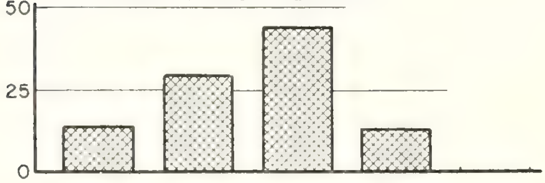
—SAWLOGS



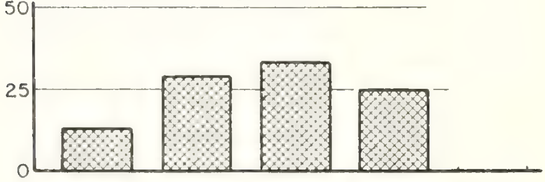
—VENEER LOGS



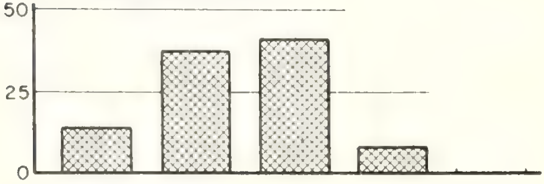
—COOPERAGE BOLTS



—HANDLE BOLTS



—HEWN TIES



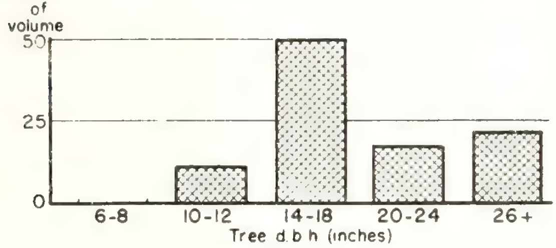
In most of the hardwood stands selected for cutting, roughly one-third to four-tenths of the growing stock is in trees 14 to 18 inches d. b. h. A fourth or less of the volume is in trees above 18 inches d. b. h. except in veneer operations, where generally half the volume is in 20-inch or larger trees.

PJ 4-51

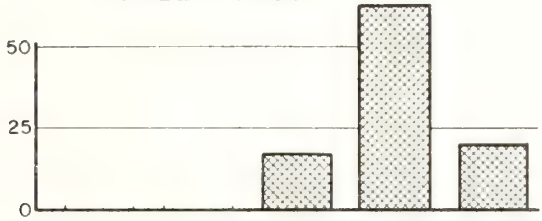
## HARDWOOD TREES CUT FOR—

(Cubic-foot growing stock, by tree diameter)

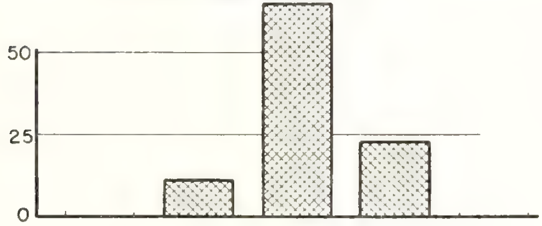
—SAWLOGS



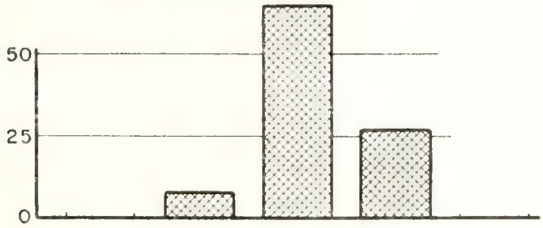
—VENEER LOGS



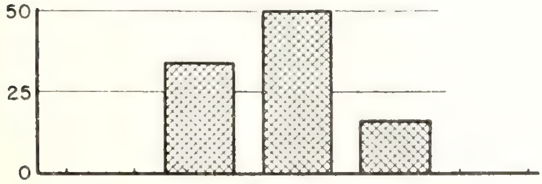
—COOPERAGE BOLTS



—HANDLE BOLTS



—HEWN TIES

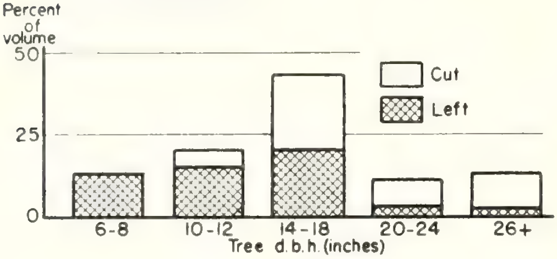


Over 80 percent of the hardwood volume cut for veneer logs is in big trees (20 inches d.b.h. or larger). In sawlog operations four-tenths of the cut is in big trees. For other products—cooperage, handle stock, hewn ties—smaller trees are cut.

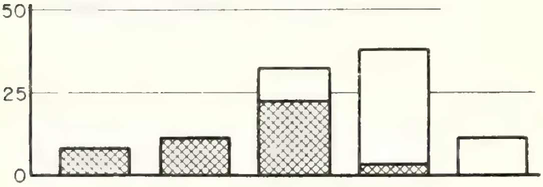
## HARDWOOD STANDS AFTER CUTTING FOR—

(Cubic-foot growing stock by tree diameter, and proportion cut and left)

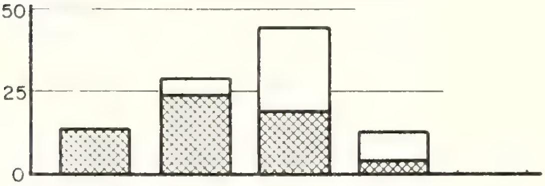
—SAWLOGS



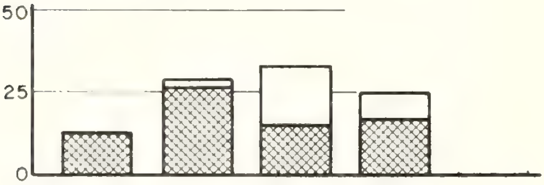
—VENEER LOGS



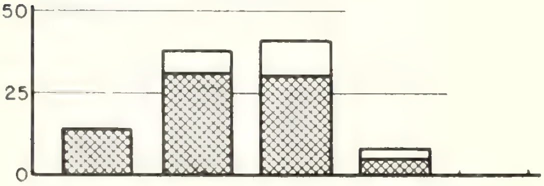
—COOPERAGE BOLTS



—HANDLE BOLTS



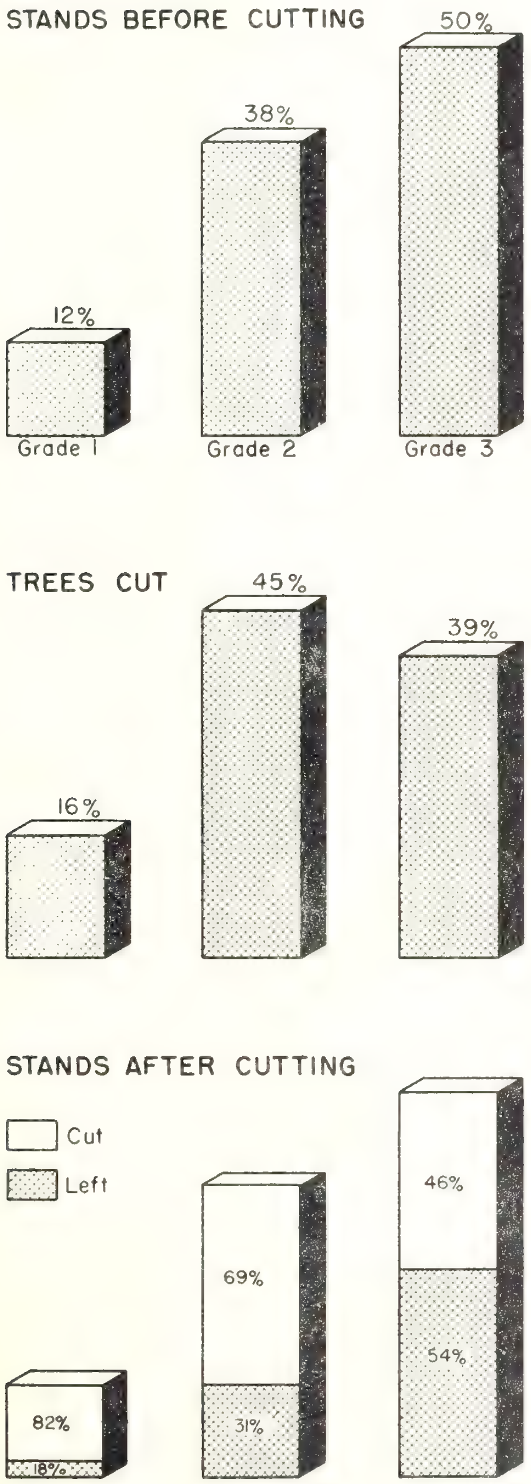
—HEWN TIES



Logging for all hardwood products leaves a larger portion of the stand than does pine logging for either sawlogs or pulpwood: the portion left in hardwood ranges from half the growing stock for veneer and sawlogs to 8/10ths for hewn ties. Lighter hardwood cutting usually reflects specialized size, species, and quality requirements.

## TREE QUALITY IN HARDWOOD STANDS CUT FOR SAWLOGS

(Sawlog growing stock, by tree grade)



Before the average sawlog operation, half the timber in the stand is of the lowest merchantable grade (grade 3); after logging, two-thirds of the timber left standing is grade 3. Such high-grading for the better quality trees leads to stand deterioration.

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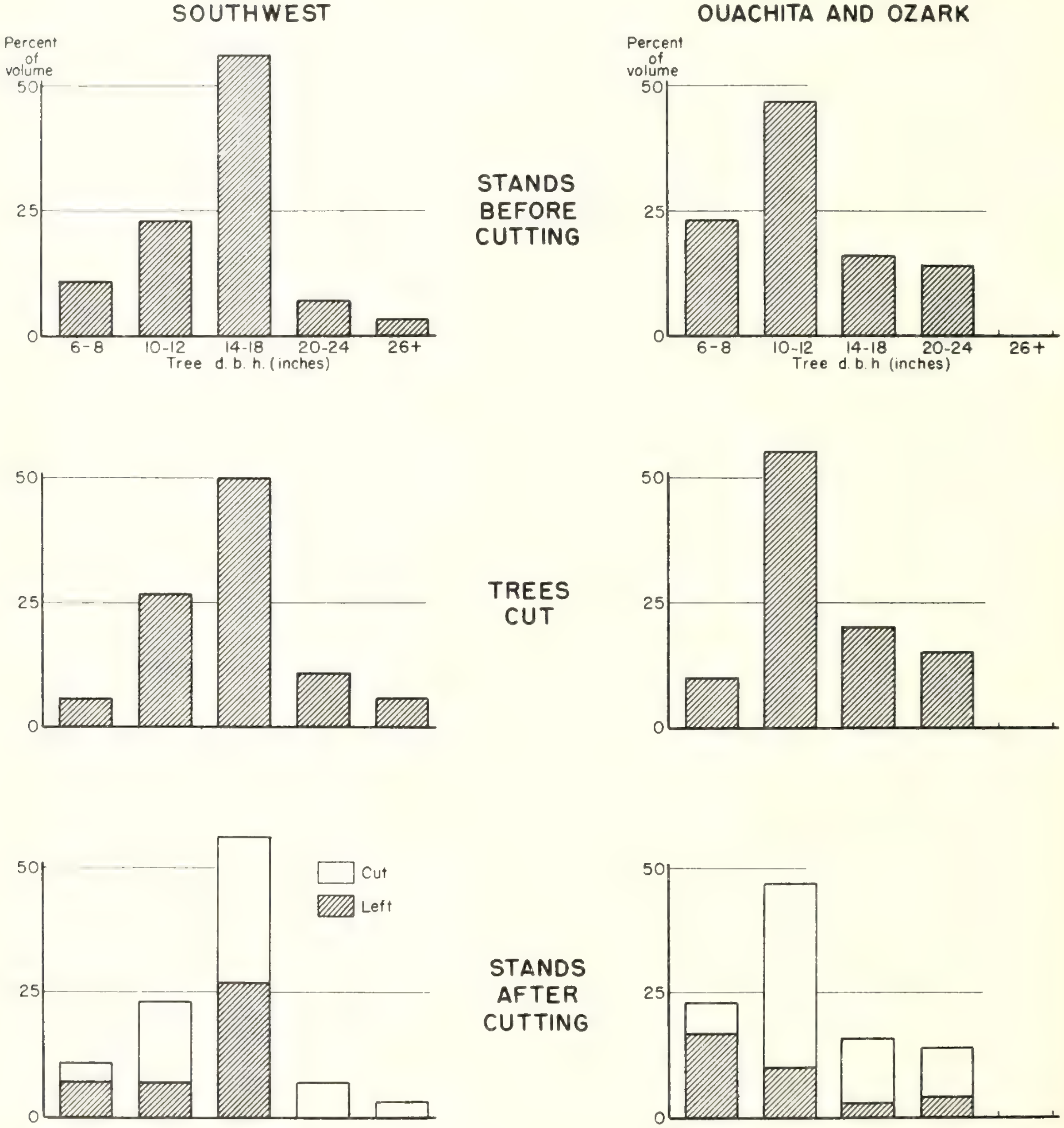
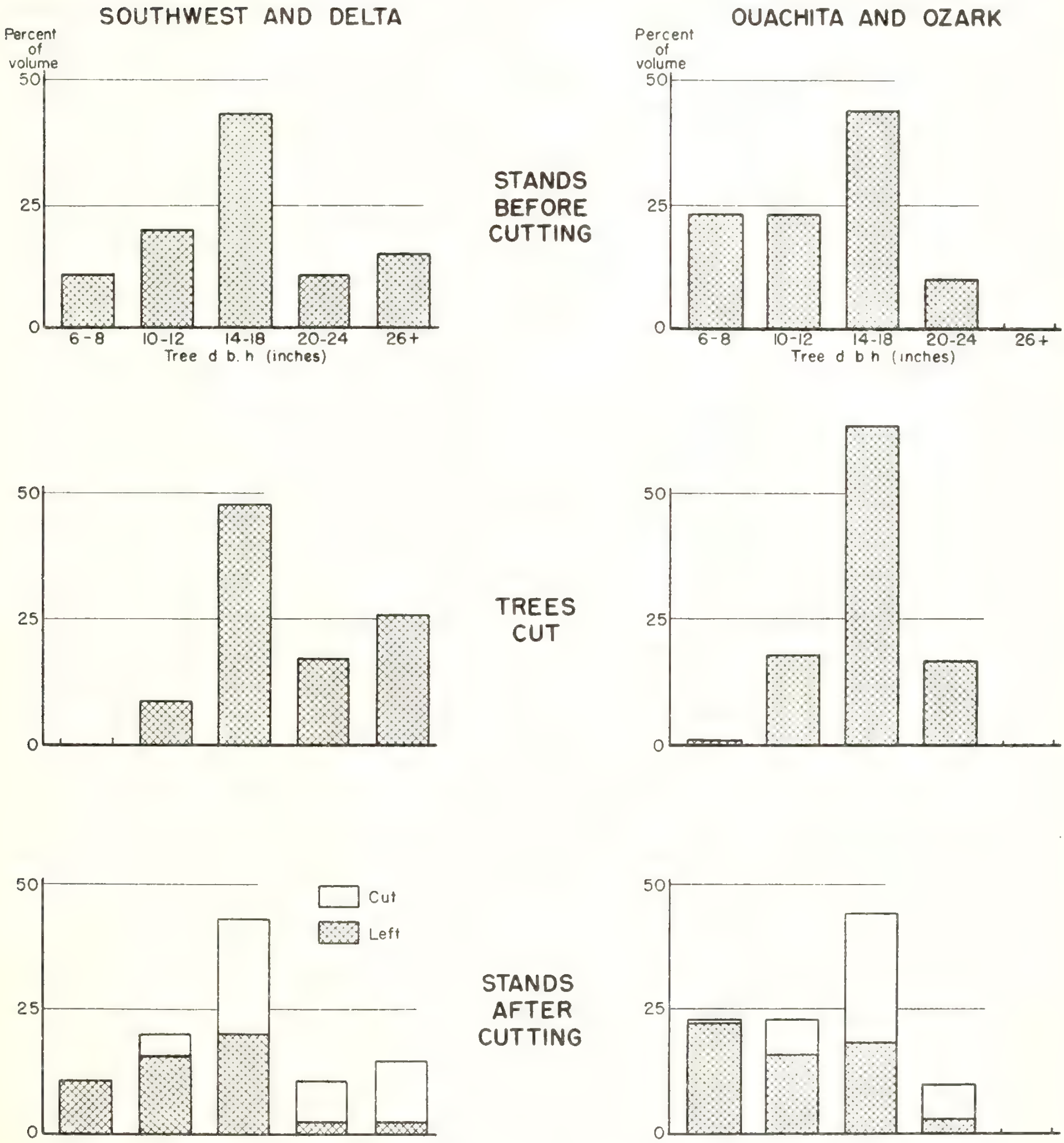
## SAWLOG CUTTING IN PINE STANDS BY REGION
(Cubic-foot growing stock, by tree diameter)



Although some large tracts of old-growth shortleaf pine remain in the Ouachita Mountains, pine stands selected for cutting in southwest Arkansas average substantially larger timber than in the mountains. Roughly two-thirds of the volume cut in the southwest region is in trees above 12 inches d. b. h., twice as much as in the mountain regions, but cutting tends to take a bigger portion of the stand volume in the mountains.

# SAWLOG CUTTING IN HARDWOOD STANDS, BY REGION

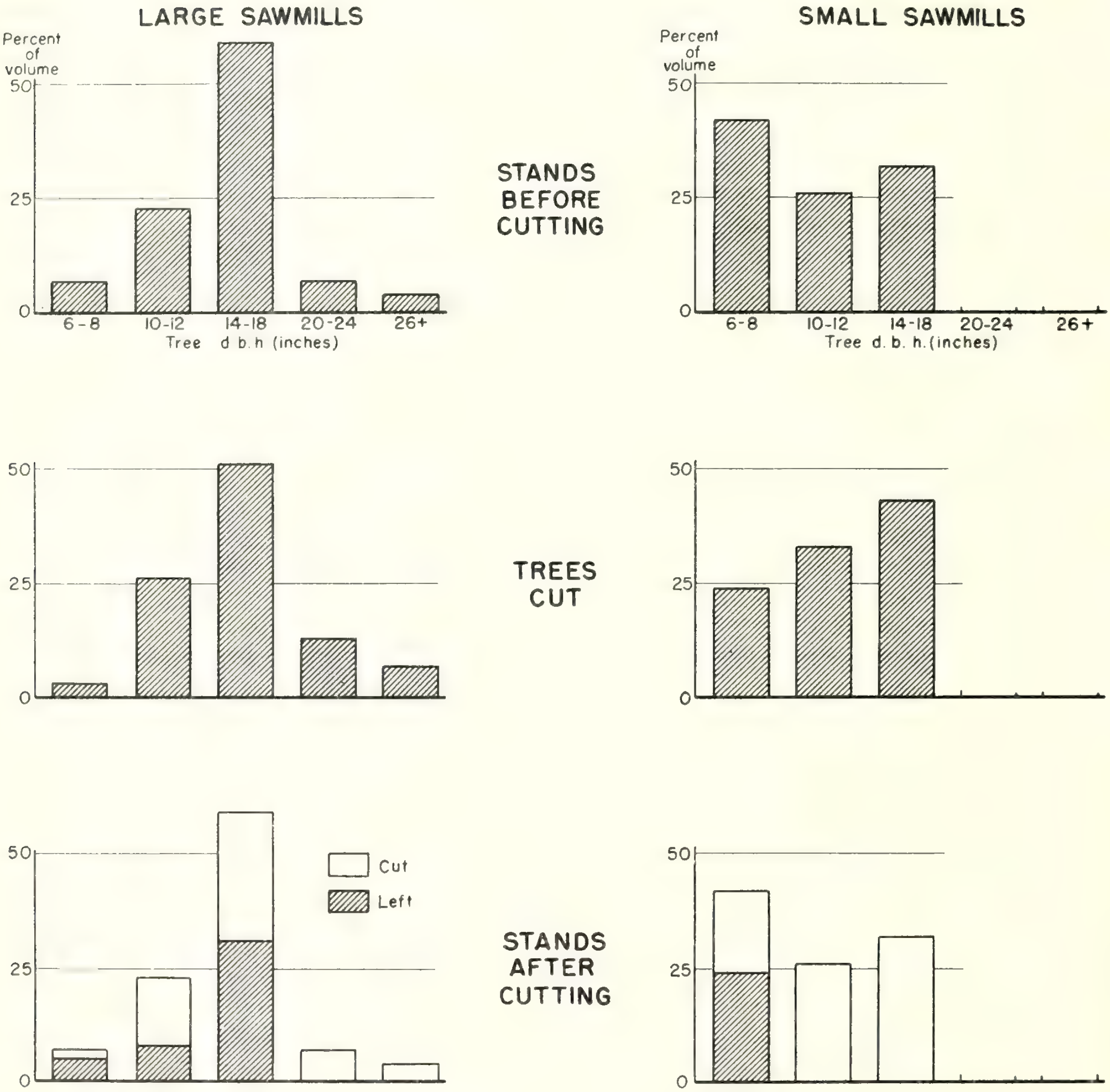
(Cubic-foot growing stock, by tree diameter)



In the southwest and Delta regions, hardwood stands in which cutting is done average somewhat bigger timber than on the generally poorer sites of the Ouachita and Ozark Mountains. Although trees cut also have a larger average size in the southwest and Delta regions, the proportion of stand left after logging is about the same in all regions.

# SAWLOG CUTTING IN SOUTHWEST ARKANSAS PINE STANDS, BY MILL SIZE

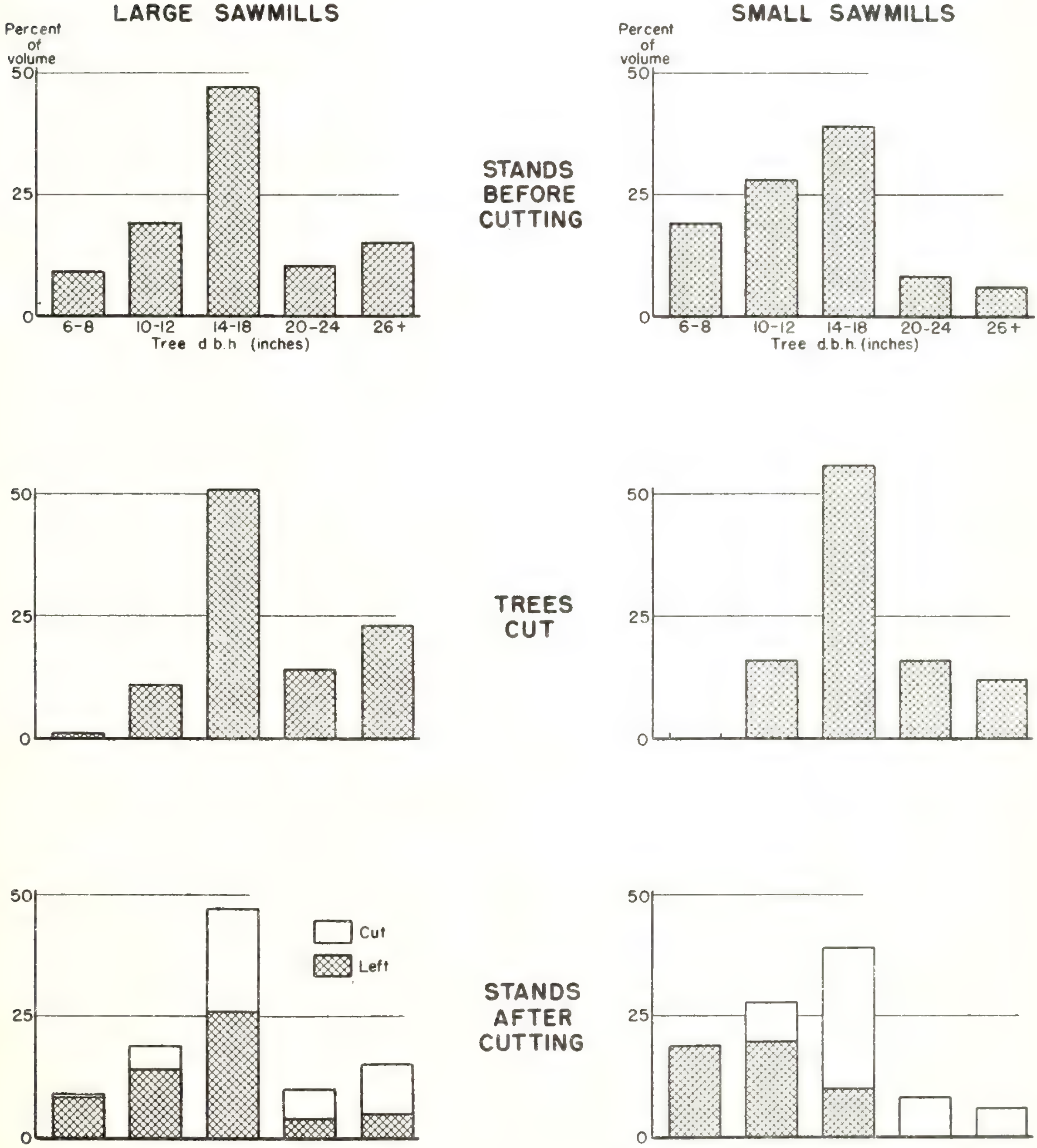
(Cubic-foot growing stock, by tree diameter)



Logging operations for large sawmills are carried out in stands with an average of more than twice as much pine volume in trees over 12 inches d.b.h. as the small mills have access to. This is traceable to several causes: large mills can often afford to bid more for the bigger trees; some of the companies operating large mills own extensive tracts of well-managed timber; and the zero-margin tree diameter limit is usually higher for the large mills. About half the timber in trees under 20 inches is left standing in large-mill operations. Only a fourth is left in small-mill operations, virtually all of it in 6- and 8-inch trees.

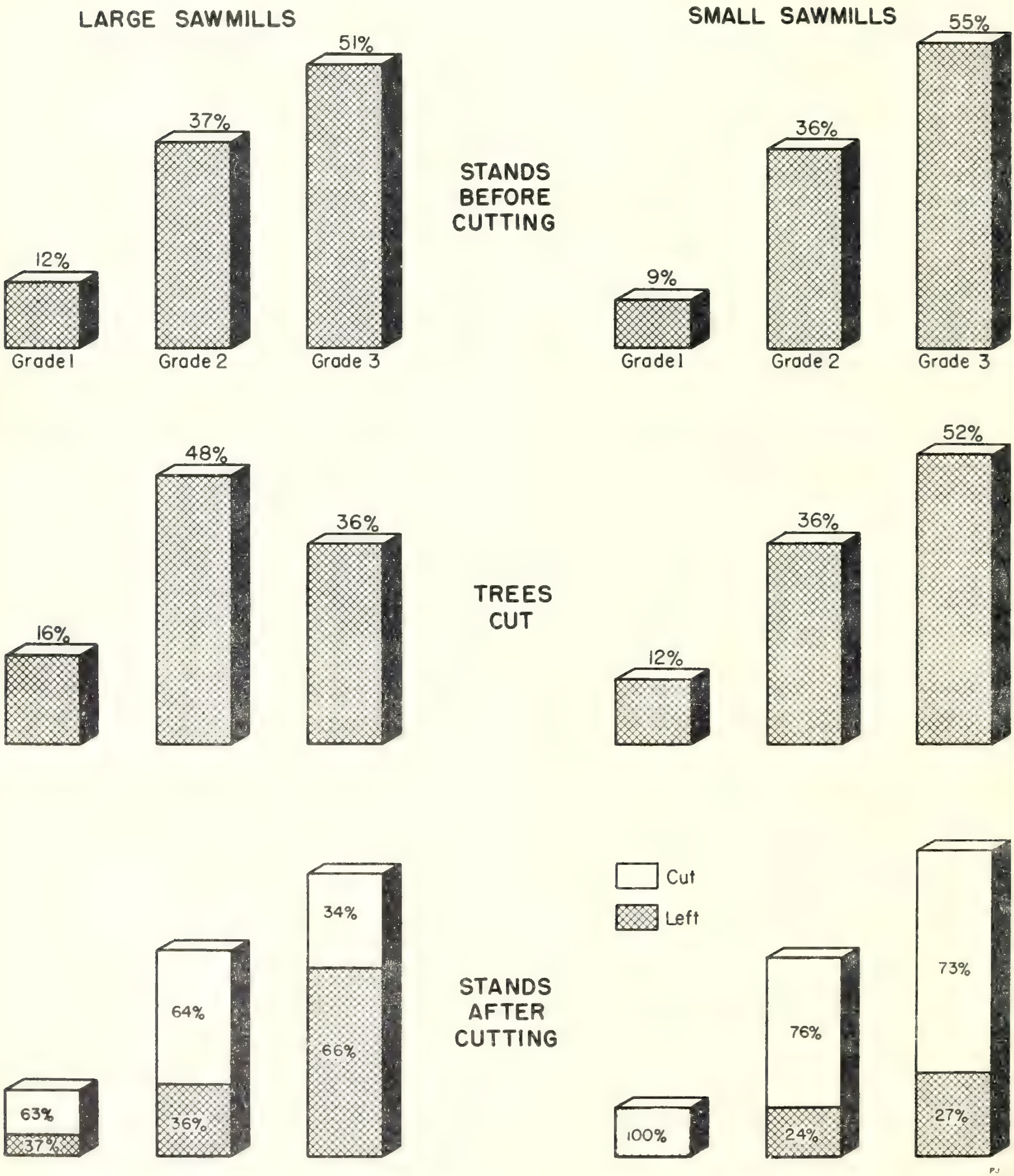
## SAWLOG CUTTING IN SOUTHWEST ARKANSAS HARDWOOD STANDS, BY MILL SIZE

(Cubic-foot growing stock, by tree diameter)



Large hardwood mills have access to stands of bigger average tree size than do small mills, though the contrast is less than in pine. A bigger portion of the initial stand volume is left after logging for large mills, although more of the cut comes from big trees.

SAWLOG CUTTING IN
SOUTHWEST ARKANSAS HARDWOOD STANDS, BY MILL SIZE
(Sawlog growing stock, by tree grade)



Hardwood stands entered in large- and small-mill operations have about the same quality timber initially, but small-mill cutting is much more severe in all grades.

## The Field Survey and Its Accuracy

This report is based on measurements of 88 quarter-acre sample plots taken in 1949-50 on logging operations throughout Arkansas. The plots were selected by products roughly in proportion to 1948 drain. Fence posts, fuel wood, poles, piling, and miscellaneous products were omitted from the study. Their omission permitted stronger sampling of other products.

| Product | Timber drain, (preliminary estimate) 1948 |
|---|---|
| | Percent |
| Lumber | 57 |
| Pulpwood | 10 |
| Fuel wood | 22 |
| Fence posts | 2 |
| Cooperage | 2 |
| Veneer | 2 |
| Hewn ties | 1 |
| Handle bolts | 1 |
| Poles and piling | 1 |
| Miscellaneous | 2 |
| Total | 100 |

The location of sample plots was controlled to insure geographic coverage of each product in proportion to drain, but within each locality plots were chosen at random. All products were sampled separately--i.e., cutting on any given plot was for one timber product only. In addition, cutting on each plot was usually either of pine or of hardwood species.

Sampling proved to be adequate for the statistical compilations presented. Standard errors of estimate for statistics in a typical chart are as follows:

| Diameter breast high (inches) | Estimate of hardwood volume cut for small sawmills in southwest Arkansas | Standard error of estimate |
|---|---|---|
| | Percent | |
| 10 - 12 | 16 | ± 10 |
| 14 - 18 | 56 | ± 10 |
| 20 - 24 | 16 | ± 8 |
| 26 and up | 12 | ± 6 |

Following are the highest standard errors for any chart in the report:

| Diameter breast high (inches) | Estimate of pine volume cut for small sawmills in southwest Arkansas | Standard error of estimate |
|---|---|---|
| | Percent | |
| 6 - 8 | 24 | ± 11 |
| 10 - 12 | 33 | ± 11 |
| 14 - 18 | 43 | ± 18 |

## Definition of Terms

### Class of Timber

Growing stock. Sawlog growing stock is the sawlog portion of sawlog trees. Total growing stock includes sawlog growing stock, upper stems of pine sawlog trees, and entire stems of cordwood trees to a minimum diameter of 4 inches inside bark.

Sawlog tree. A live, merchantable pine 9.0 inches or larger in d.b.h., or a live, merchantable hardwood 11.0 inches or larger in d.b.h. To be merchantable, the tree must have at least a merchantable 12-foot butt log or 50 percent of its gross volume in merchantable logs.

Cordwood tree. A live tree 5.0 inches or larger in d.b.h., but smaller than sawlog size, which would become a sawlog tree if it should grow to sawlog size.

### Volume

Board-foot (sawlog) volume. Net volume in merchantable sawlogs in sawlog trees, measured in board feet by the International 1/4-inch log rule (sawlog growing stock).

Cubic-foot volume. Net volume of total growing stock, measured in cubic feet (cubic-foot growing stock).

## Diameter

D.b.h. (diameter breast high). Tree diameter in inches, outside bark, measured at 4½ feet above ground.

Diameter class. Each 2-inch diameter class includes diameters 1.0 inch below and 0.9 inch above the stated midpoint. E.g., the 12-inch class includes trees 11.0 inches through 12.9 inches.

## Size of Sawmill

Large sawmill. A sawmill producing at least 3 million board feet of lumber annually.

Small sawmill. A sawmill producing less than 3 million board feet of lumber annually.

## Hardwood Tree Grade[3]

(Tree grade is same as grade of butt log)

Grade 1.--Logs having five-sixths or more of their length on the 3 best faces in clear-cuttings not less than 3 feet long; they yield at least 65 percent of their volume in No. 1 Common and better grades of lumber.

Grade 2.--Logs having two-thirds to five-sixths of their entire length on the 3 best faces in clear-cuttings not less than 3 feet long; they yield at least 40 percent of their volume in No. 1 Common and better grades of lumber.

Grade 3.--

--A. Logs below grade 2, having 1/2 or more of their entire length on the 3 best faces in clear-cuttings not less than 2 feet long; they yield at least 13 percent of their volume in No. 1 Common and better grades of lumber.

--B. Logs which do not meet the clear-cutting requirements of 3A or higher grades, but which are sound, reasonably straight, and without large knots or knot clusters; they are suitable for ties or low-grade structural timbers.

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[3] For detailed external specifications of log grades used, see Forest Service Committee on Interim Hardwood Sawlog Grades, "Interim Sawlog Grades for Southern Hardwoods." Southern Forest Experiment Station, 9pp. (processed.) 1948, rev.

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# LUMBER PRODUCTION MAPS
## FOR SOUTHERN FOREST SURVEY TERRITORY

Joe F. Christopher

A REPORT OF THE SOUTHERN FOREST SURVEY
William A. Duerr, In Charge

SOUTHERN FOREST EXPERIMENT STATION
Harold L. Mitchell, Director
New Orleans, La.

FOREST SERVICE, U. S. DEPT. OF AGRICULTURE

# THE SOUTHERN FOREST SURVEY

The Southern Forest Survey, an activity of the Southern Forest Experiment Station, covers the seven States of the Station's territory--Alabama, Arkansas, Louisiana, Mississippi, Oklahoma, Tennessee, and Texas. This Survey is a part of the nation-wide Forest Survey authorized by the McSweeney-McNary Forest Research Act of 1928. Its five-fold purpose is (1) to take inventory of the supply of standing timber and other forest products; (2) to ascertain the rate at which this supply is being increased through growth; (3) to determine the rate at which this supply is being diminished through industrial and local use, and by fire, insects, disease, and other agencies; (4) to estimate the present requirements and the probable future trend in the requirements for timber and other forest products; and (5) to correlate these findings with existing and anticipated economic conditions, in order that policies may be formulated for the effective use of lands suitable for forest production.

## SPECIES OF LUMBER MAPPED

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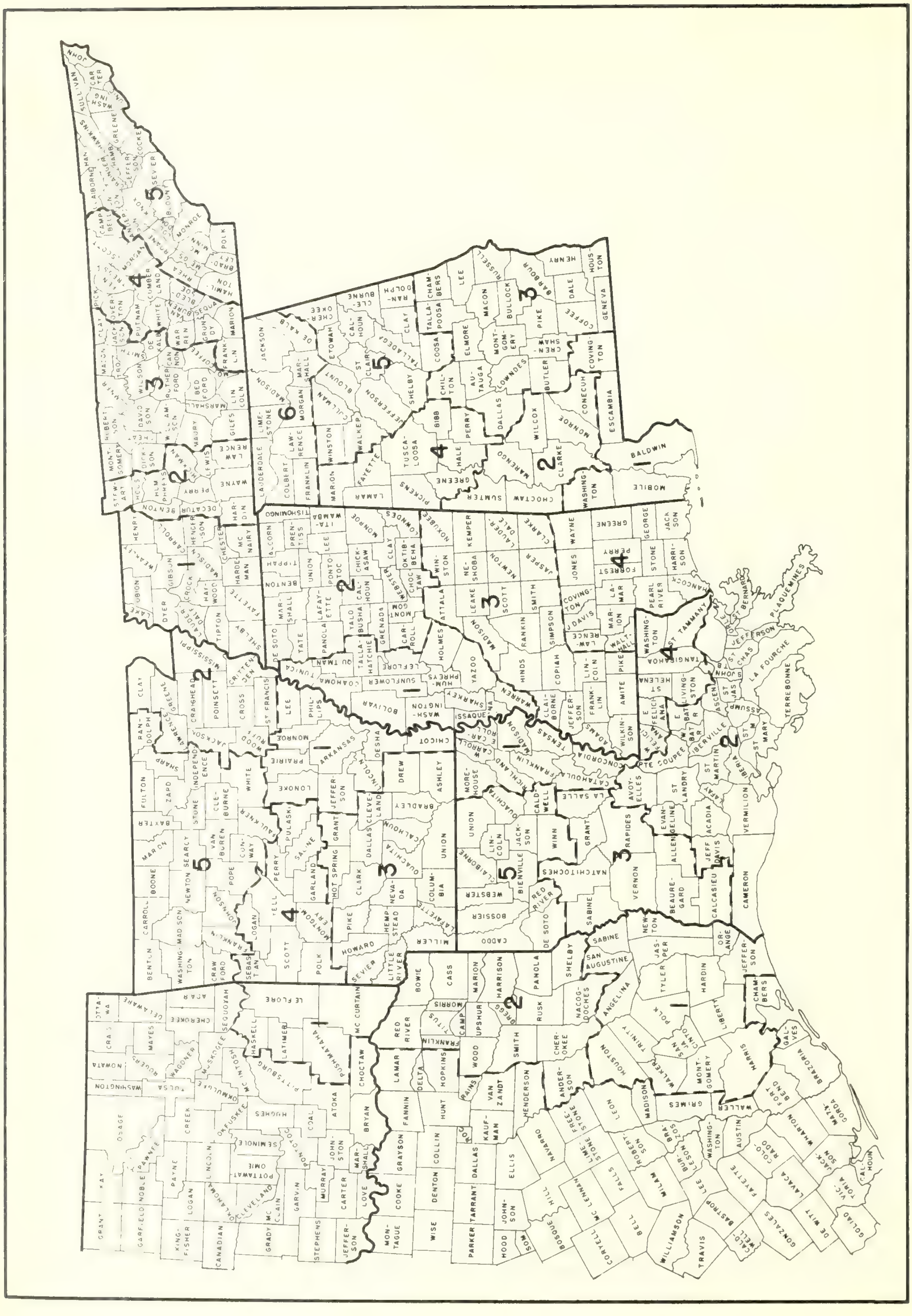


Figure 1.--Southern Forest Survey territory.

# LUMBER PRODUCTION MAPS FOR SOUTHERN FOREST SURVEY TERRITORY

Joe F. Christopher
Southern Forest Experiment Station

This publication describes the location of lumber production in Southern Forest Survey territory. Twenty-eight maps show where lumber of various species or species groups was produced in 1946. Since most lumber is sawn near the point where the timber is cut, the maps also suggest the distribution of standing timber.

The maps are based upon lumber production data which the Southern Forest Survey, in cooperation with the Bureau of the Census, collected in a complete enumeration of saw mills in the territory. Each dot on a map represents a stated production of lumber within the county. To simplify the maps, however, county boundaries are omitted and only the boundaries of Forest Survey regions are shown; the counties within these regions are identified in figure 1.

In 1947 (comparable statistics for 1946 are not available) 67 percent of the gum, 52 percent of the southern yellow pine, 40 percent of the oak, and 40 percent of the cypress lumber manufactured in the United States was produced in Southern Forest Survey territory (table 1). In addition, the territory was a major source of ash, beech, cottonwood, elm, hackberry, hickory, magnolia, pecan, persimmon, sycamore, walnut, willow, and yellow-poplar. It also produced some basswood, birch, cherry, chestnut, hemlock, maple, and white pine.

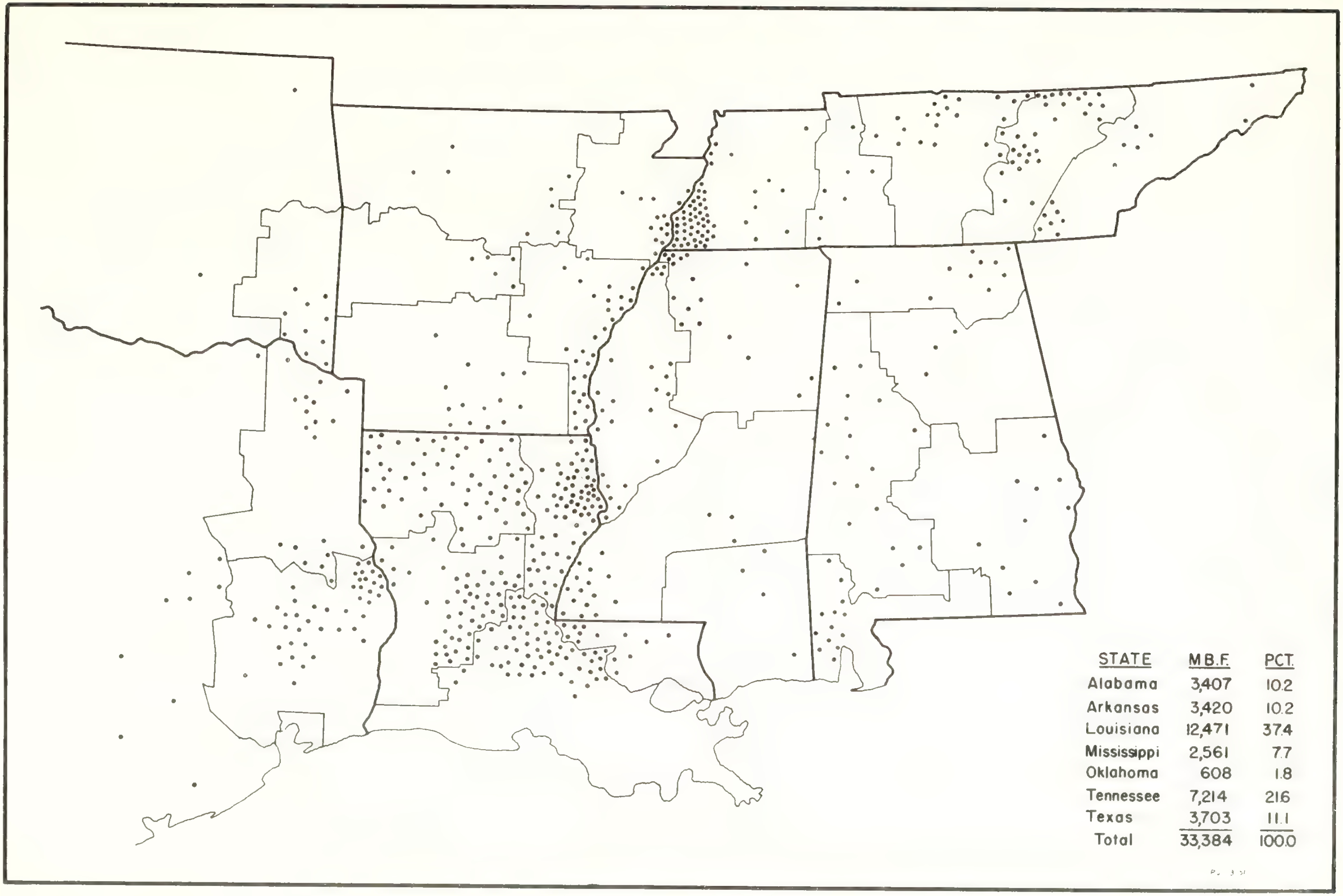
Table 1.--Lumber production by species in United States and Southern Forest Survey territory, 1947

| Species | United States | Southern Forest Survey territory | Percent of U.S. |
|---|---|---|---|
| | - - - Thousand board feet | - - - | Percent |
| Softwood: | | | |
| Cedar | (1/) | 21,305 | (1/) |
| Cypress | 240,445 | 96,282 | 40.0 |
| Hemlock, eastern | 595,606 | 4,963 | 0.8 |
| Pine, white | 1,118,556 | 2,463 | 0.2 |
| Pine, southern yellow | 9,473,360 | 4,974,045 | 52.5 |
| Other softwoods | 16,509,431 | 520 | (2/) |
| Total | 27,937,398 | 5,099,578 | 18.3 |
| Hardwood: | | | |
| Ash | 106,126 | 27,869 | 26.3 |
| Basswood | 125,514 | 4,715 | 3.8 |
| Beech | 330,111 | 70,547 | 21.4 |
| Birch | 174,842 | 1,497 | 0.9 |
| Cherry | 42,006 | 654 | 1.6 |
| Chestnut | 32,887 | 2,934 | 8.9 |
| Cottonwood and aspen | 380,910 | 105,970 | 27.8 |
| Elm | 202,023 | 54,617 | 27.0 |
| Gum, black and tupelo | 407,973 | 238,482 | 58.5 |
| Gum, sweet | 803,043 | 577,539 | 71.9 |
| Hackberry3/ | 14,300 | 13,500 | 94.4 |
| Hickory | 155,947 | 52,907 | 33.9 |
| Magnolia3/ | 27,900 | 20,900 | 74.9 |
| Maple | 630,495 | 26,453 | 4.2 |
| Oak | 3,192,842 | 1,290,616 | 40.4 |
| Pecan3/ | 15,800 | 15,600 | 98.7 |
| Persimmon3/ | 700 | 600 | 85.7 |
| Sycamore | 63,296 | 22,843 | 36.1 |
| Walnut | 34,077 | 4,524 | 13.3 |
| Willow3/ | 8,500 | 7,700 | 90.6 |
| Yellow-poplar | 635,521 | 178,731 | 28.1 |
| Other hardwood | 82,001 | 23,001 | 28.0 |
| Total | 7,466,814 | 2,742,199 | 36.7 |
| All species | 35,404,212 | 7,841,777 | 22.1 |

1/ In national statistics, all eastern species of cedar combined; virtually all cedar in the Southern Forest Survey territory is eastern redcedar.

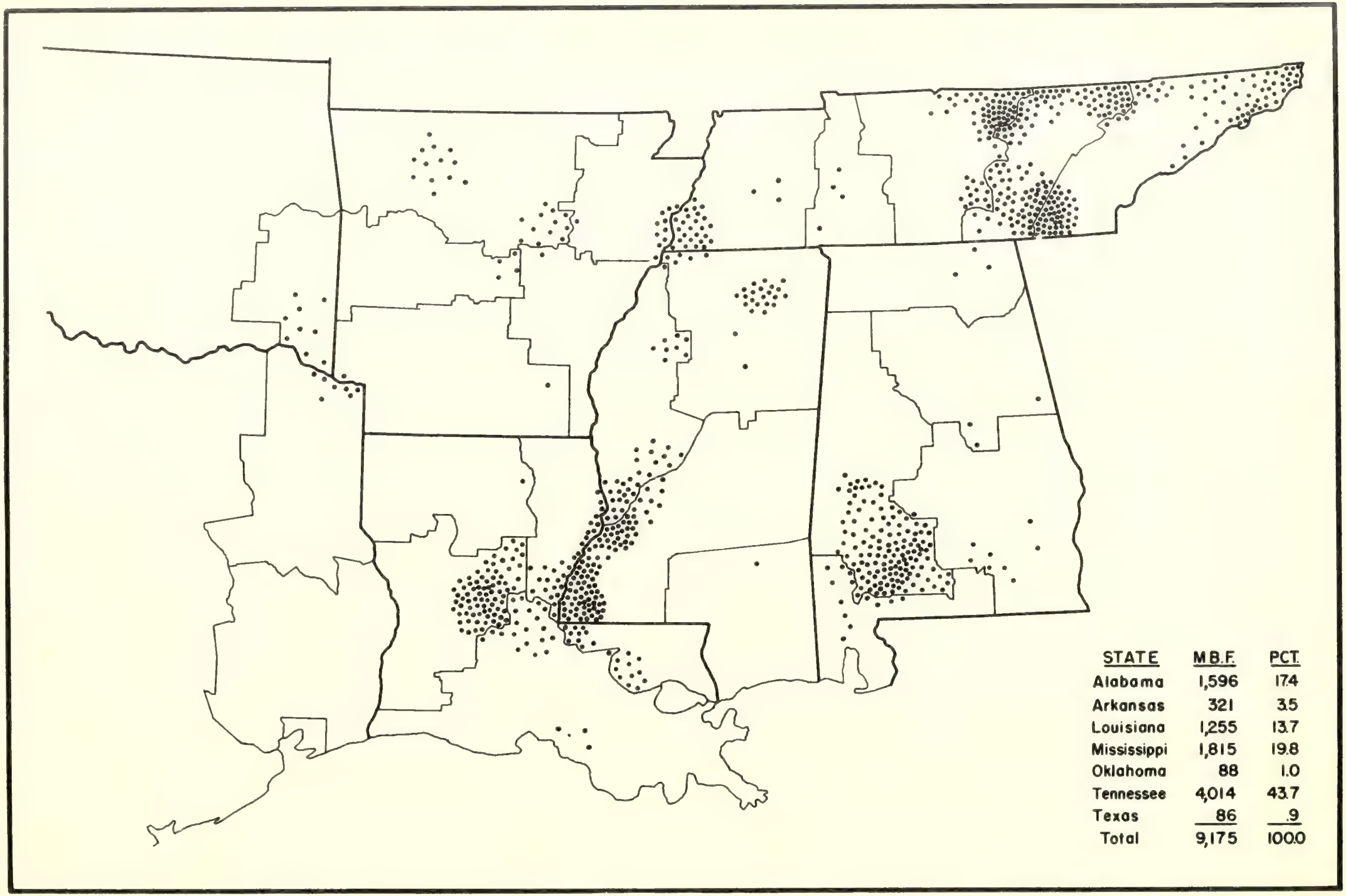
2/ Negligible.

3/ Estimated.



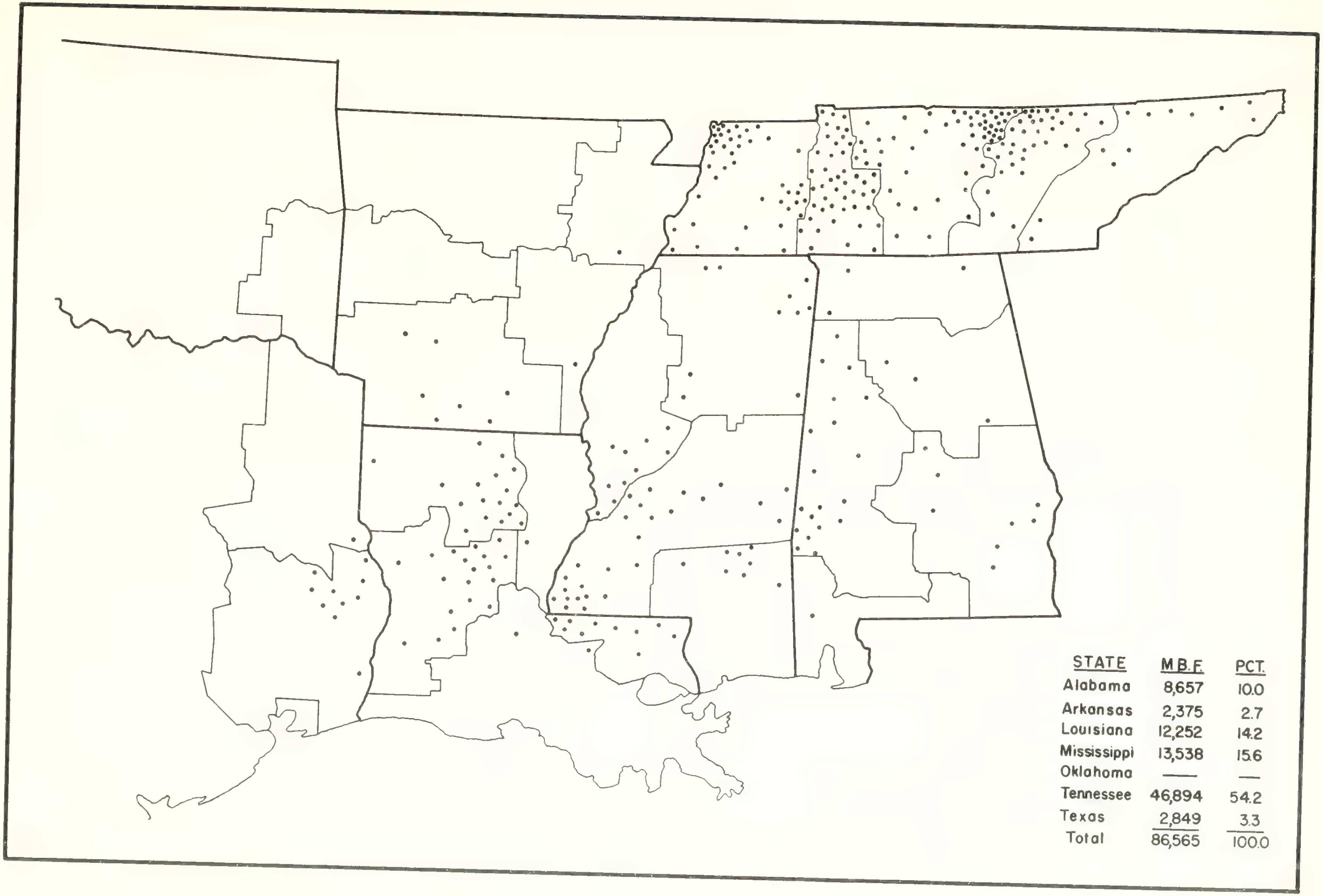
| STATE | M.B.F. | PCT. |
|---|---|---|
| Alabama | 3,407 | 10.2 |
| Arkansas | 3,420 | 10.2 |
| Louisiana | 12,471 | 37.4 |
| Mississippi | 2,561 | 7.7 |
| Oklahoma | 608 | 1.8 |
| Tennessee | 7,214 | 21.6 |
| Texas | 3,703 | 11.1 |
| Total | 33,384 | 100.0 |

Figure 2.--Ash. Each dot represents 50 M board feet of lumber sawn in 1946.



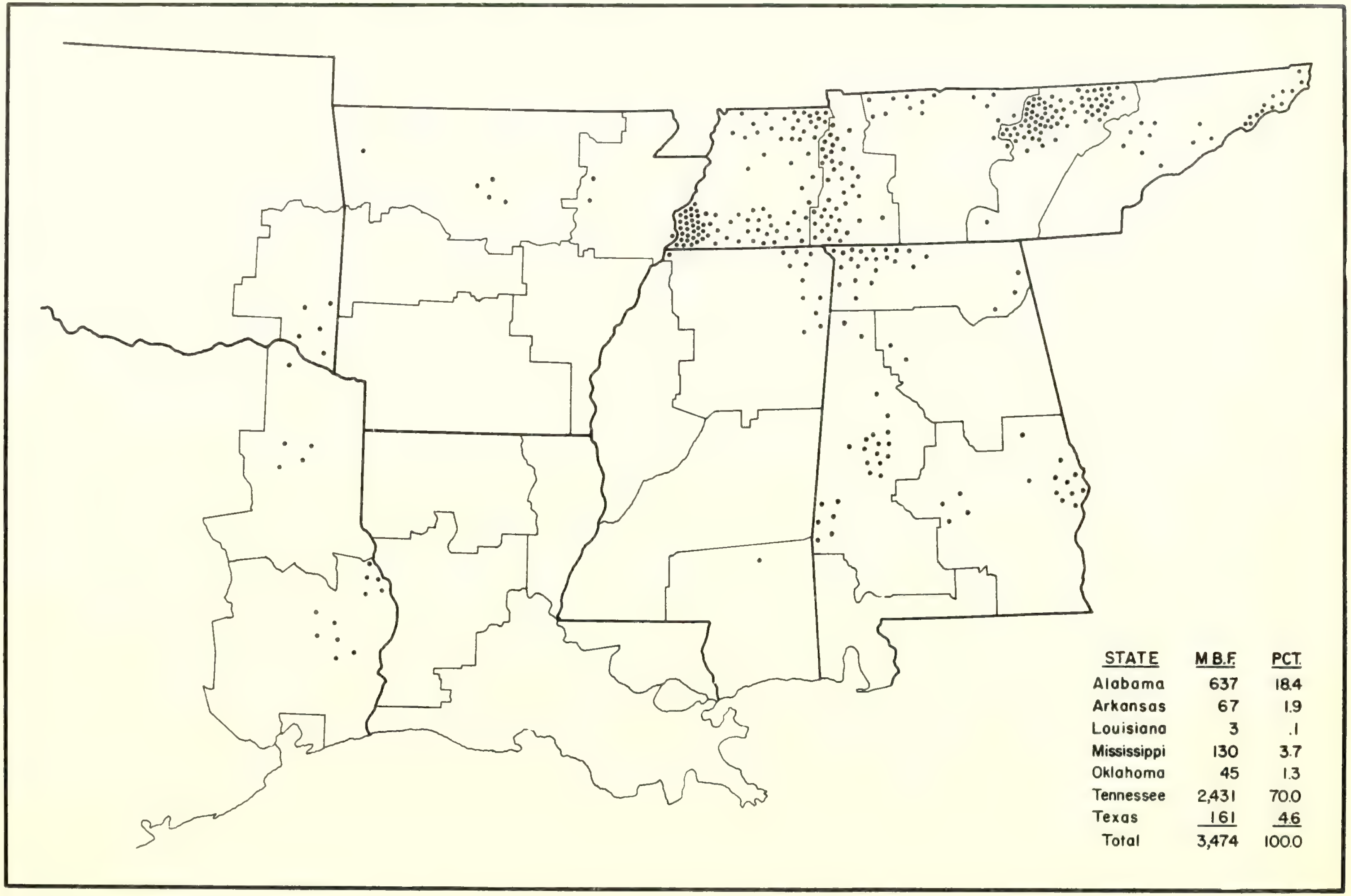
| STATE | M.B.F. | PCT. |
|---|---|---|
| Alabama | 1,596 | 17.4 |
| Arkansas | 321 | 3.5 |
| Louisiana | 1,255 | 13.7 |
| Mississippi | 1,815 | 19.8 |
| Oklahoma | 88 | 1.0 |
| Tennessee | 4,014 | 43.7 |
| Texas | 86 | .9 |
| Total | 9,175 | 100.0 |

Figure 3.--Basswood. Each dot represents 10 M board feet of lumber sawn in 1946.



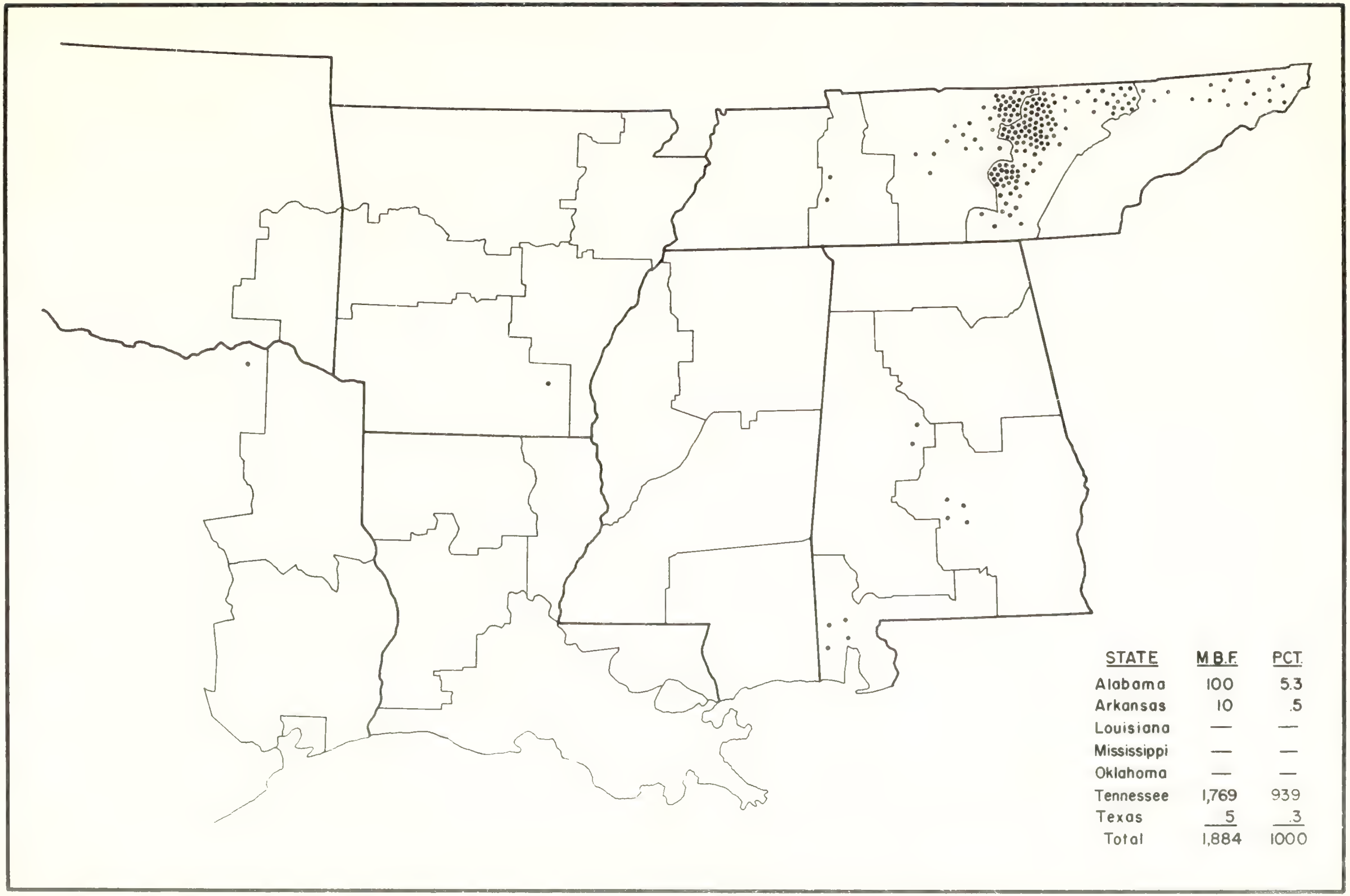
| STATE | M.B.F. | PCT. |
|---|---|---|
| Alabama | 8,657 | 10.0 |
| Arkansas | 2,375 | 2.7 |
| Louisiana | 12,252 | 14.2 |
| Mississippi | 13,538 | 15.6 |
| Oklahoma | — | — |
| Tennessee | 46,894 | 54.2 |
| Texas | 2,849 | 3.3 |
| Total | 86,565 | 100.0 |

Figure 4.--Beech. Each dot represents 250 M board feet of lumber sawn in 1946.



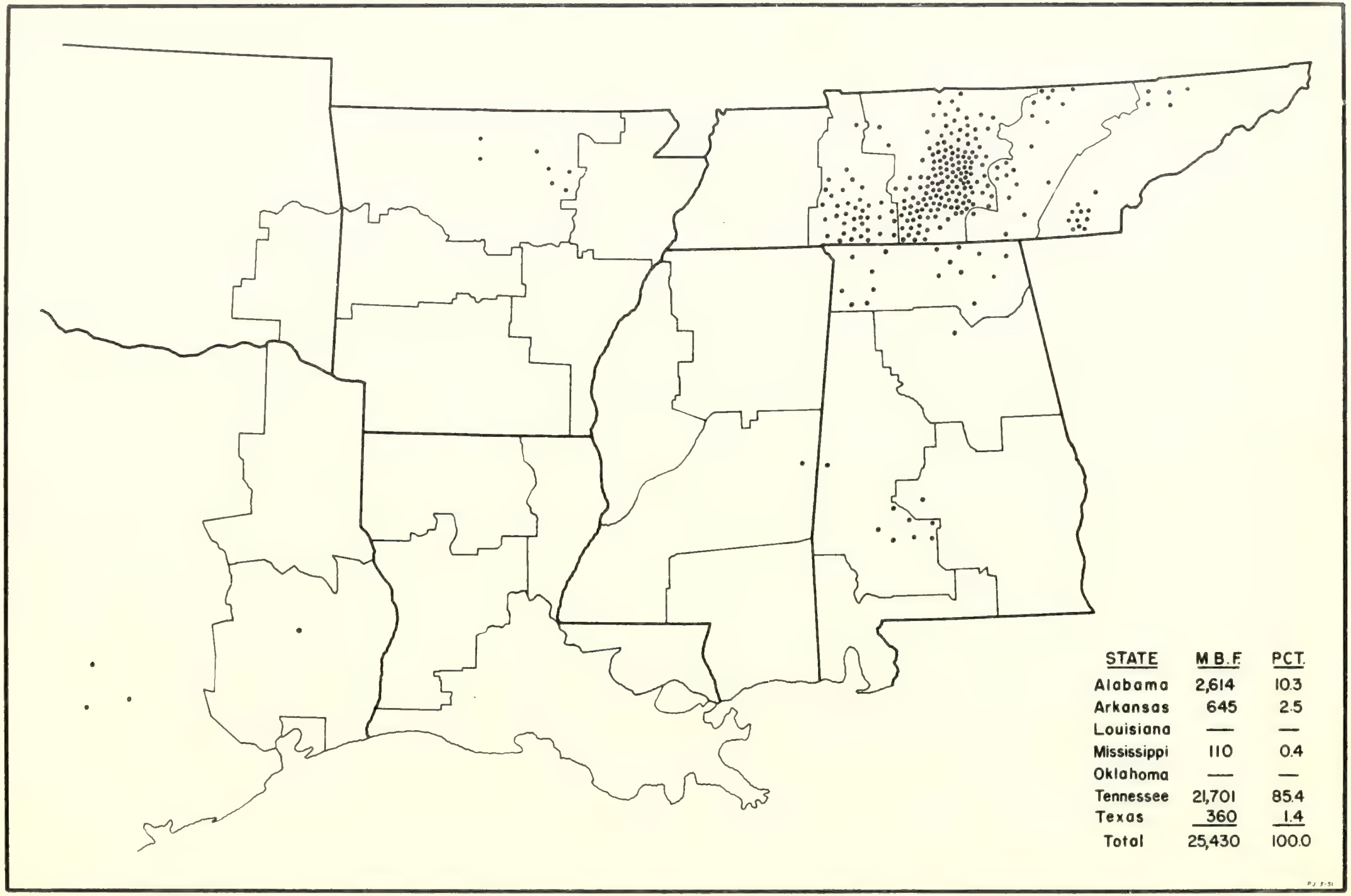
| STATE | M.B.F. | PCT. |
|---|---|---|
| Alabama | 637 | 18.4 |
| Arkansas | 67 | 1.9 |
| Louisiana | 3 | .1 |
| Mississippi | 130 | 3.7 |
| Oklahoma | 45 | 1.3 |
| Tennessee | 2,431 | 70.0 |
| Texas | 161 | 4.6 |
| Total | 3,474 | 100.0 |

Figure 5.--Birch. Each dot represents 10 M board feet of lumber sawn in 1946.



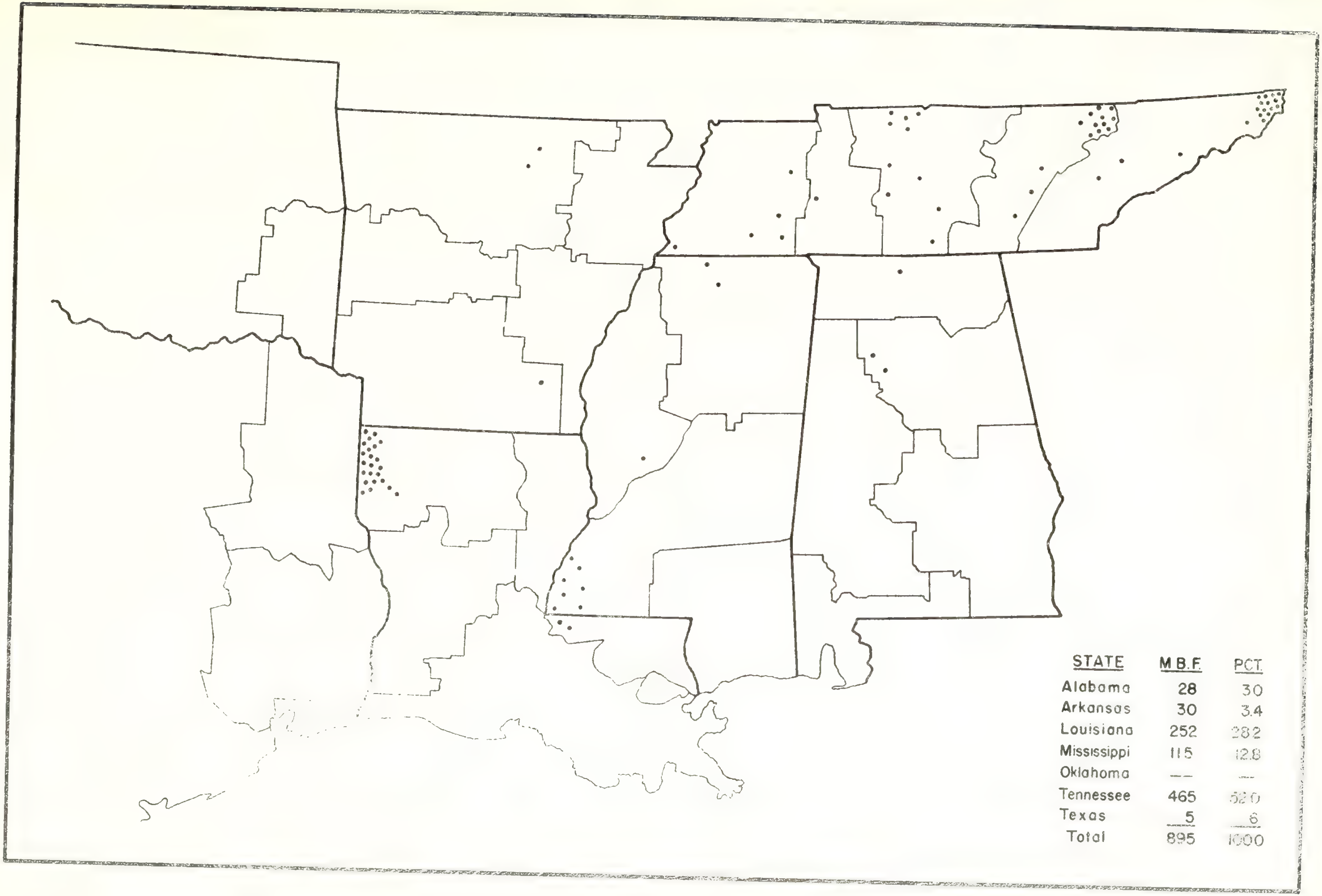
| STATE | M.B.F. | PCT. |
|---|---|---|
| Alabama | 100 | 5.3 |
| Arkansas | 10 | .5 |
| Louisiana | — | — |
| Mississippi | — | — |
| Oklahoma | — | — |
| Tennessee | 1,769 | 939 |
| Texas | 5 | .3 |
| Total | 1,884 | 1000 |

Figure 6.--Buckeye. Each dot represents 10 M board feet of lumber sawn in 1946.



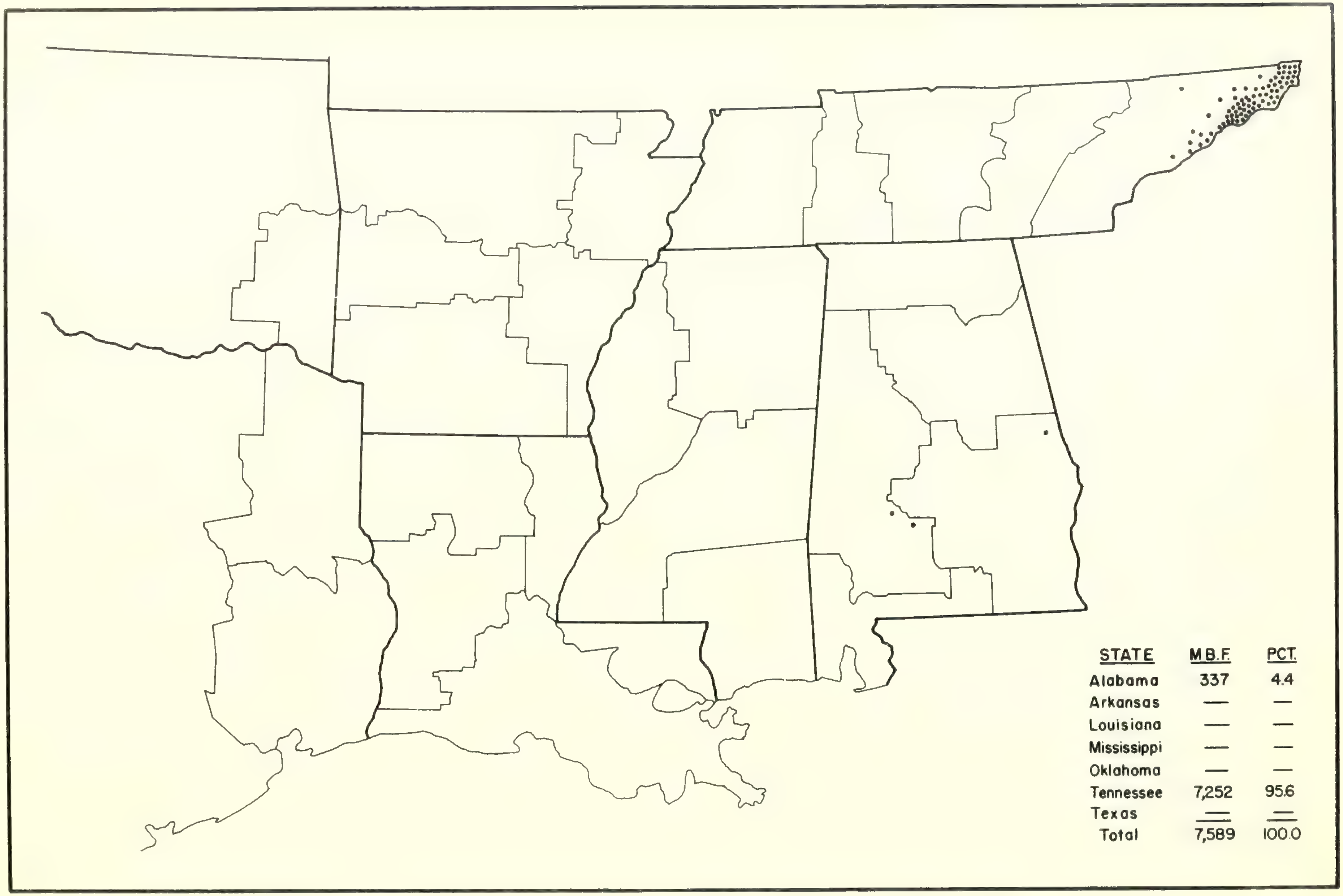
| STATE | M B.F. | PCT. |
|---|---|---|
| Alabama | 2,614 | 10.3 |
| Arkansas | 645 | 2.5 |
| Louisiana | — | — |
| Mississippi | 110 | 0.4 |
| Oklahoma | — | — |
| Tennessee | 21,701 | 85.4 |
| Texas | 360 | 1.4 |
| Total | 25,430 | 100.0 |

Figure 7.—Cedar. Each dot represents 100 M board feet of lumber sawn in 1946.



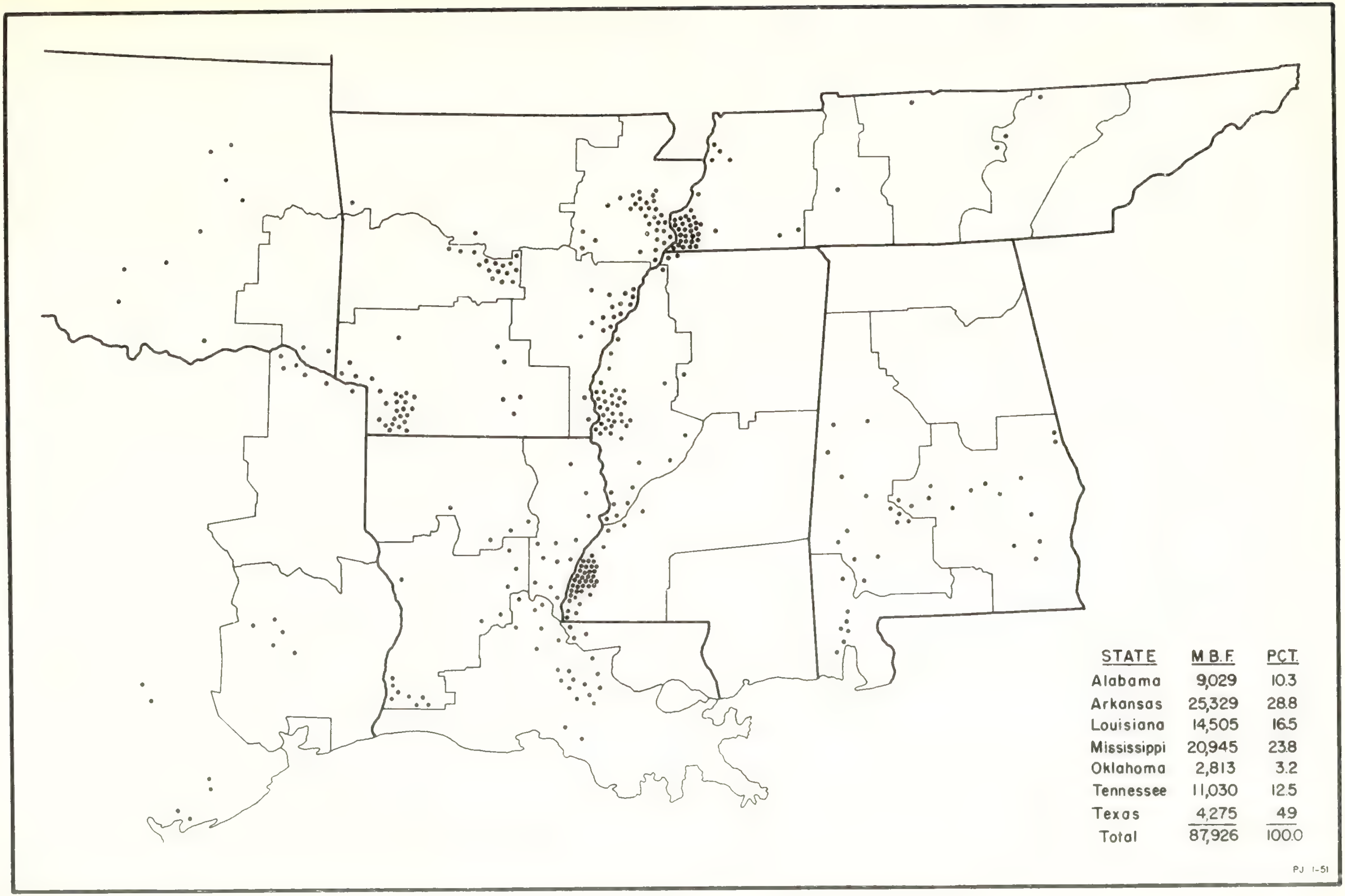
| STATE | M.B.F. | PCT. |
|---|---|---|
| Alabama | 28 | 30 |
| Arkansas | 30 | 3.4 |
| Louisiana | 252 | 282 |
| Mississippi | 115 | 12.8 |
| Oklahoma | — | — |
| Tennessee | 465 | 520 |
| Texas | 5 | 6 |
| Total | 895 | 1000 |

Figure 8.—Cherry. Each dot represents 10 M board feet of lumber sawn in 1946.



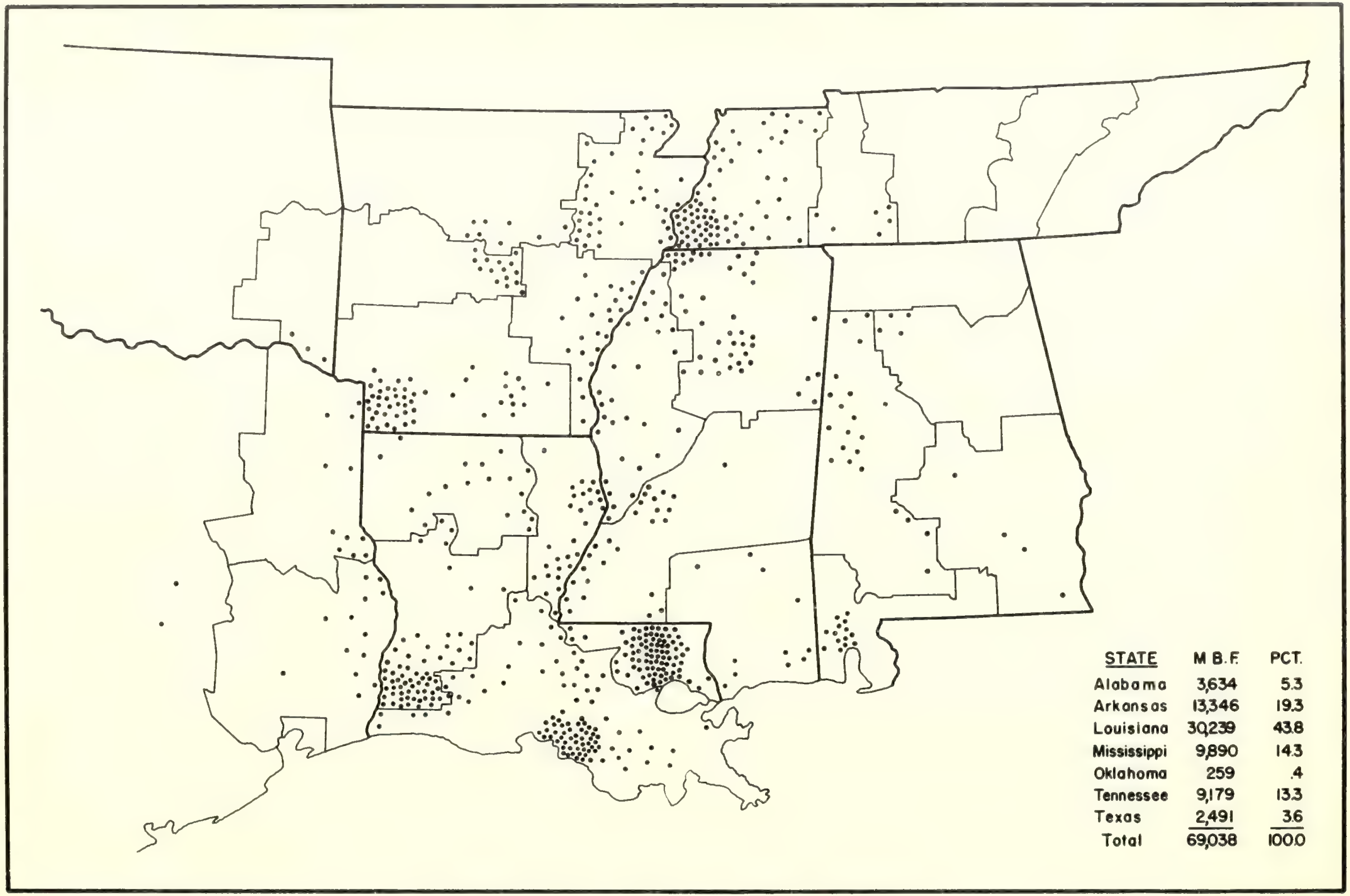
| STATE | M.B.F. | PCT. |
|---|---|---|
| Alabama | 337 | 4.4 |
| Arkansas | — | — |
| Louisiana | — | — |
| Mississippi | — | — |
| Oklahoma | — | — |
| Tennessee | 7,252 | 95.6 |
| Texas | — | — |
| Total | 7,589 | 100.0 |

Figure 9.--Chestnut. Each dot represents 100 M board feet of lumber sawn in 1946.



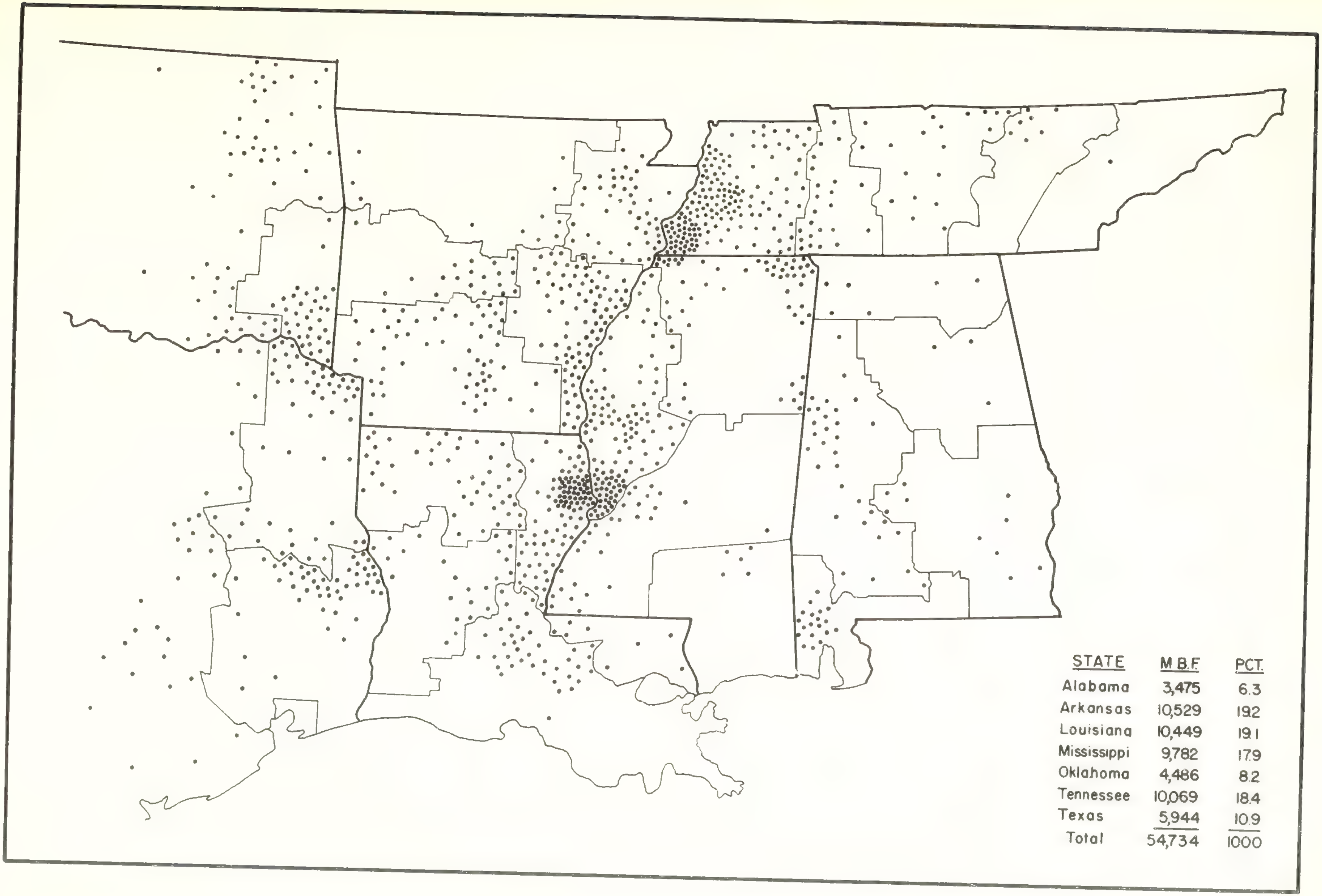
| STATE | M.B.F. | PCT. |
|---|---|---|
| Alabama | 9,029 | 10.3 |
| Arkansas | 25,329 | 28.8 |
| Louisiana | 14,505 | 16.5 |
| Mississippi | 20,945 | 23.8 |
| Oklahoma | 2,813 | 3.2 |
| Tennessee | 11,030 | 12.5 |
| Texas | 4,275 | 4.9 |
| Total | 87,926 | 100.0 |

Figure 10.--Cottonwood. Each dot represents 250 M board feet of lumber sawn in 1946.



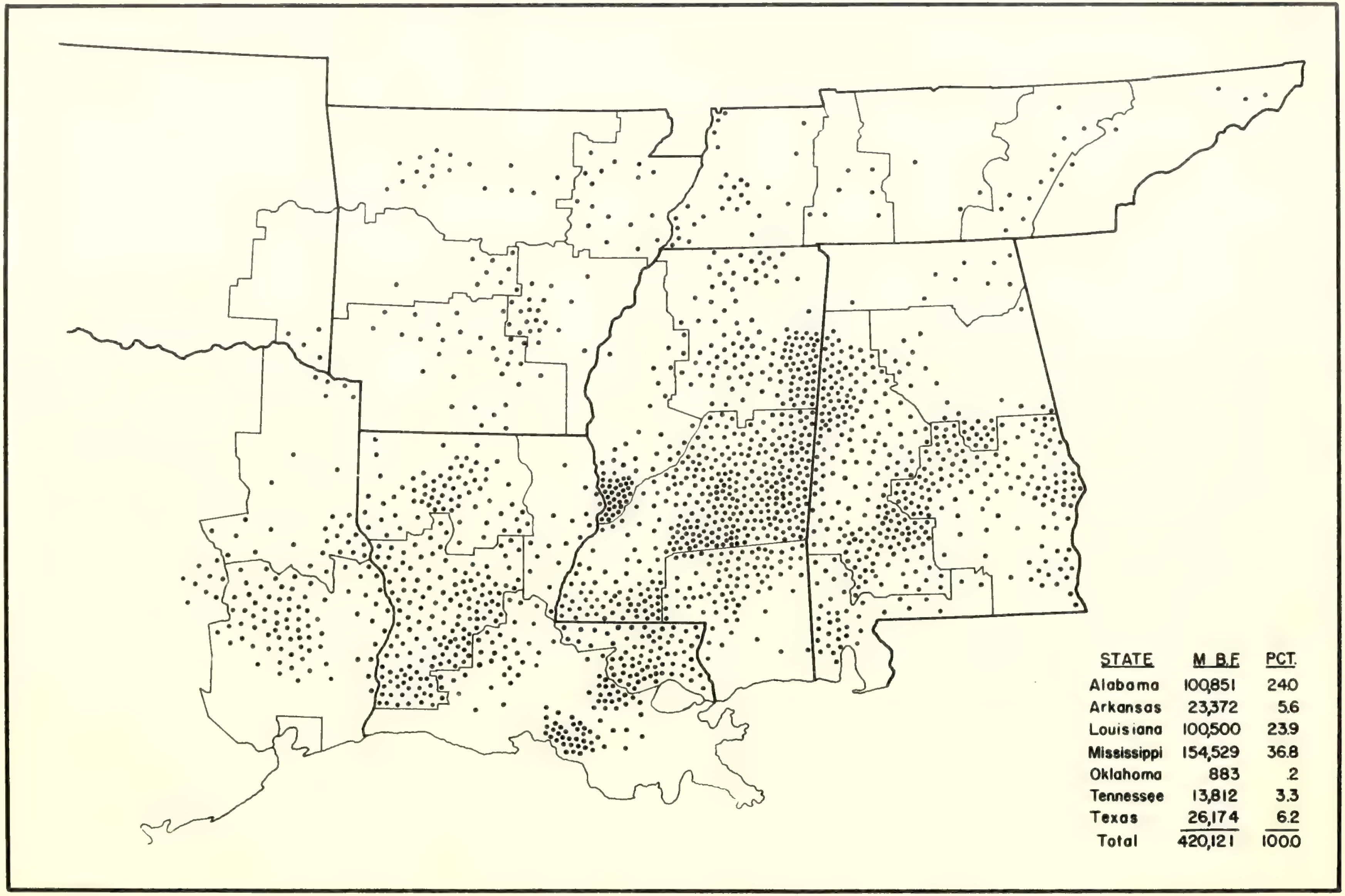
| STATE | M B.F. | PCT. |
|---|---|---|
| Alabama | 3,634 | 5.3 |
| Arkansas | 13,346 | 19.3 |
| Louisiana | 30,239 | 43.8 |
| Mississippi | 9,890 | 14.3 |
| Oklahoma | 259 | .4 |
| Tennessee | 9,179 | 13.3 |
| Texas | 2,491 | 3.6 |
| Total | 69,038 | 100.0 |

Figure 11.--Cypress. Each dot represents 100 M board feet of lumber sawn in 1946.



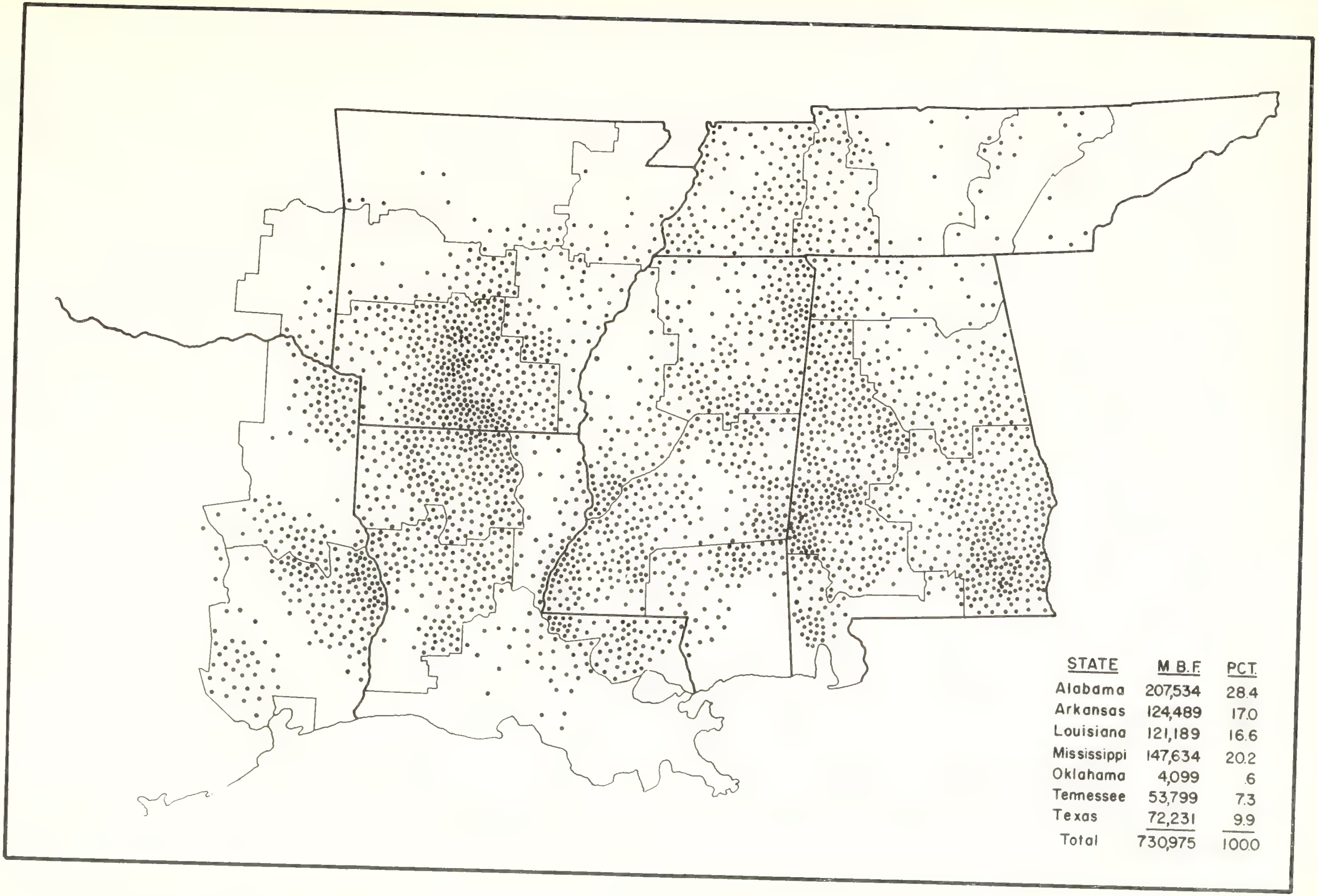
| STATE | M.B.F. | PCT. |
|---|---|---|
| Alabama | 3,475 | 6.3 |
| Arkansas | 10,529 | 19.2 |
| Louisiana | 10,449 | 19.1 |
| Mississippi | 9,782 | 17.9 |
| Oklahoma | 4,486 | 8.2 |
| Tennessee | 10,069 | 18.4 |
| Texas | 5,944 | 10.9 |
| Total | 54,734 | 100.0 |

Figure 12.--Elm. Each dot represents 50 M board feet of lumber sawn in 1946.



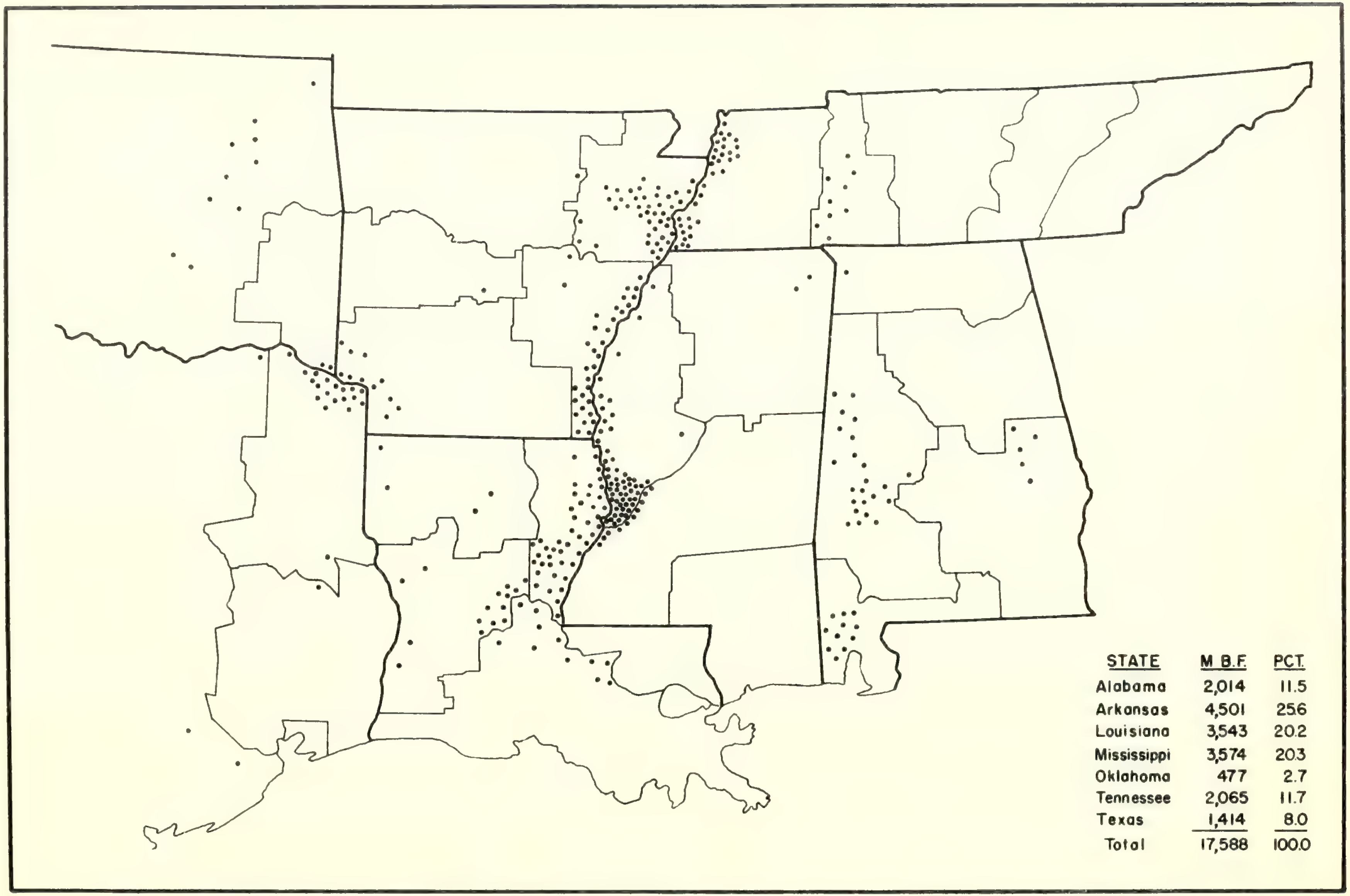
| STATE | M B.F | PCT. |
|---|---|---|
| Alabama | 100,851 | 24.0 |
| Arkansas | 23,372 | 5.6 |
| Louisiana | 100,500 | 23.9 |
| Mississippi | 154,529 | 36.8 |
| Oklahoma | 883 | .2 |
| Tennessee | 13,812 | 3.3 |
| Texas | 26,174 | 6.2 |
| Total | 420,121 | 100.0 |

Figure 13.--Blackgum and tupelo gum. Each dot represents 250 M board feet of lumber sawn in 1946.



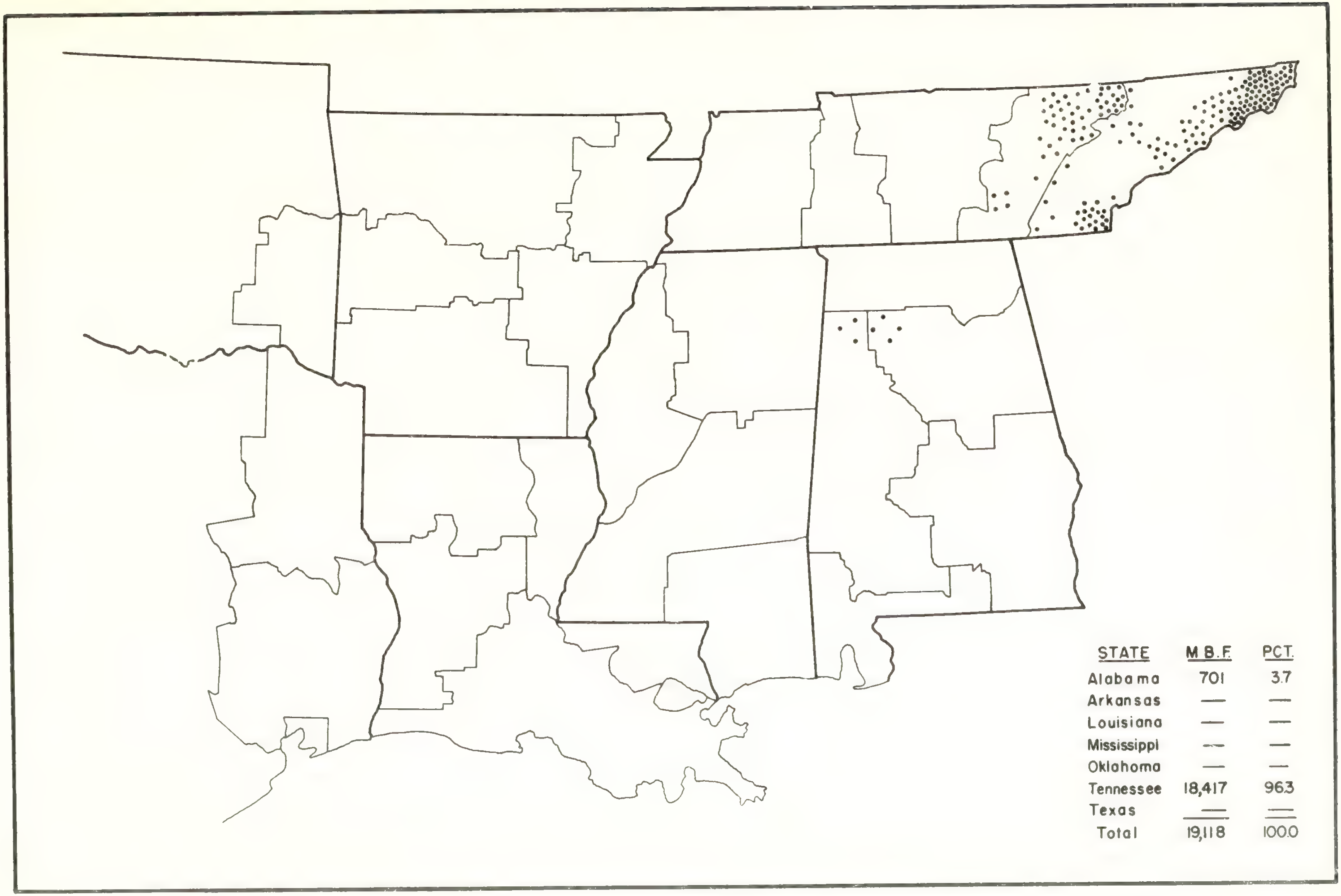
| STATE | M B.F. | PCT. |
|---|---|---|
| Alabama | 207,534 | 28.4 |
| Arkansas | 124,489 | 17.0 |
| Louisiana | 121,189 | 16.6 |
| Mississippi | 147,634 | 20.2 |
| Oklahoma | 4,099 | .6 |
| Temnessee | 53,799 | 7.3 |
| Texas | 72,231 | 9.9 |
| Total | 730,975 | 100.0 |

Figure 14.--Sweetgum (red and sap gum). Each dot represents 250 M board feet of lumber sawn in 1946.



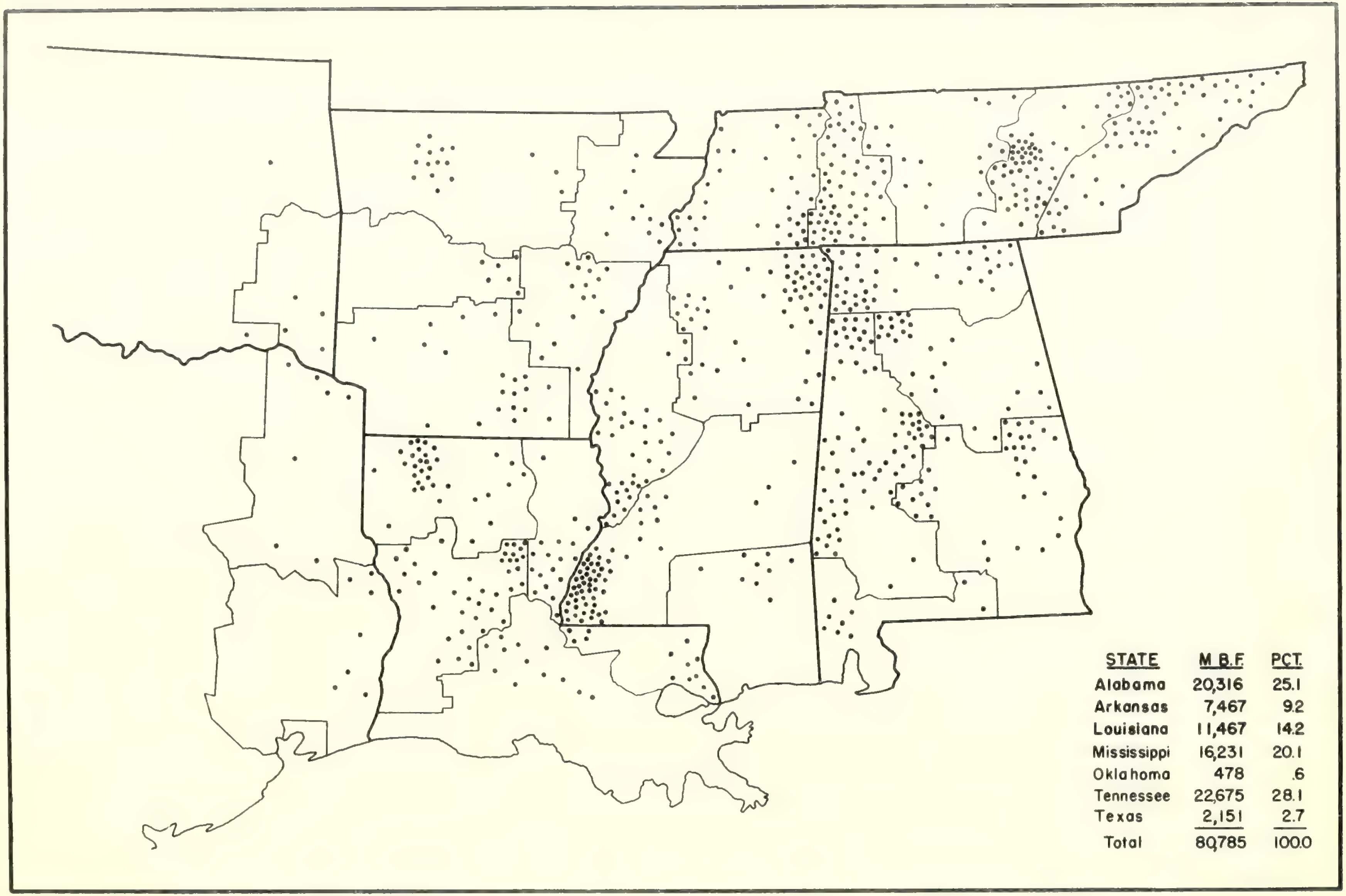
| STATE | M.B.F. | PCT. |
|---|---|---|
| Alabama | 2,014 | 11.5 |
| Arkansas | 4,501 | 25.6 |
| Louisiana | 3,543 | 20.2 |
| Mississippi | 3,574 | 20.3 |
| Oklahoma | 477 | 2.7 |
| Tennessee | 2,065 | 11.7 |
| Texas | 1,414 | 8.0 |
| Total | 17,588 | 100.0 |

Figure 15.--Hackberry. Each dot represents 50 M board feet of lumber sawn in 1946.



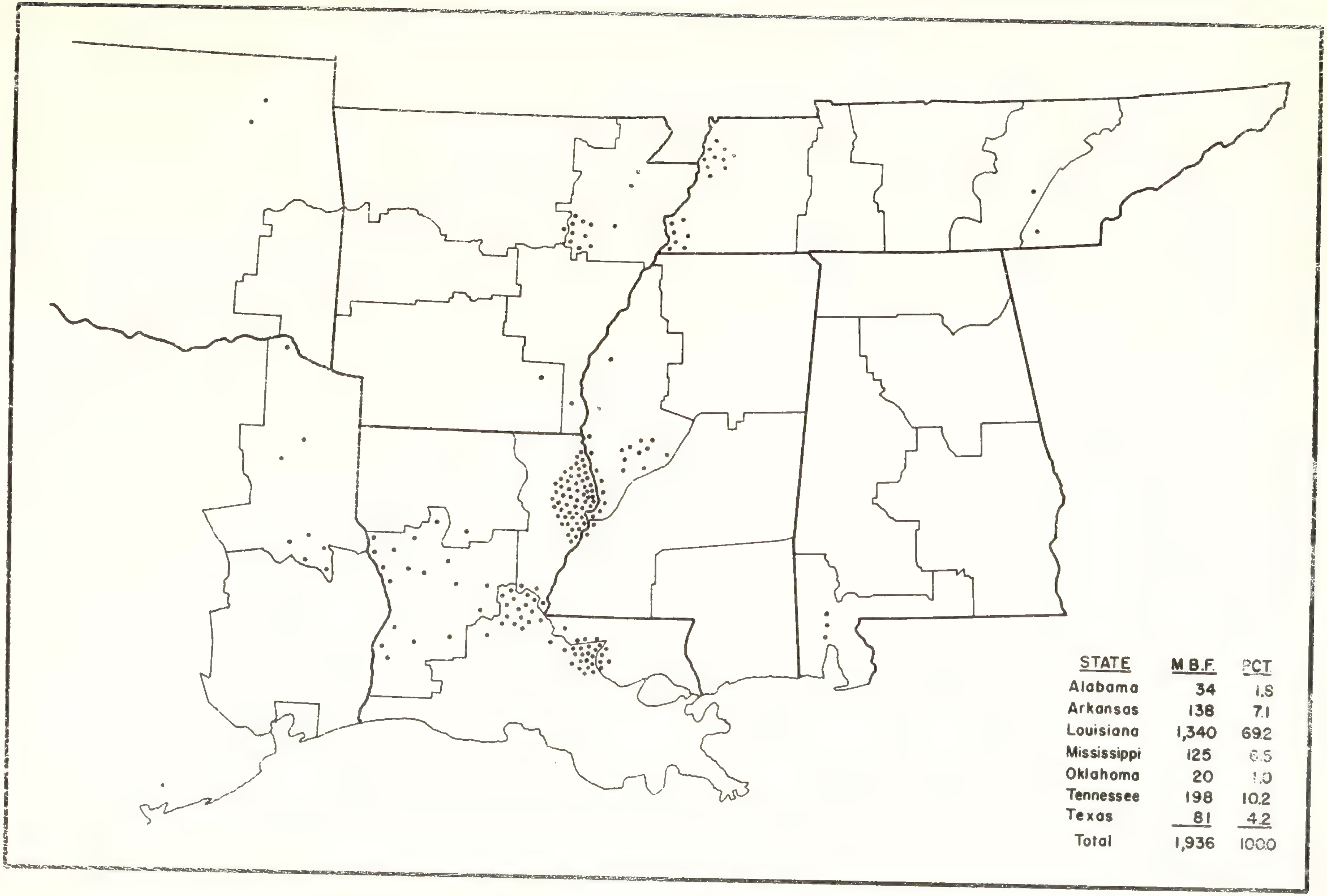
| STATE | M.B.F. | PCT. |
|---|---|---|
| Alabama | 701 | 3.7 |
| Arkansas | — | — |
| Louisiana | — | — |
| Mississippi | — | — |
| Oklahoma | — | — |
| Tennessee | 18,417 | 96.3 |
| Texas | — | — |
| Total | 19,118 | 100.0 |

Figure 16.--Hemlock. Each dot represents 100 M board feet of lumber sawn in 1946.



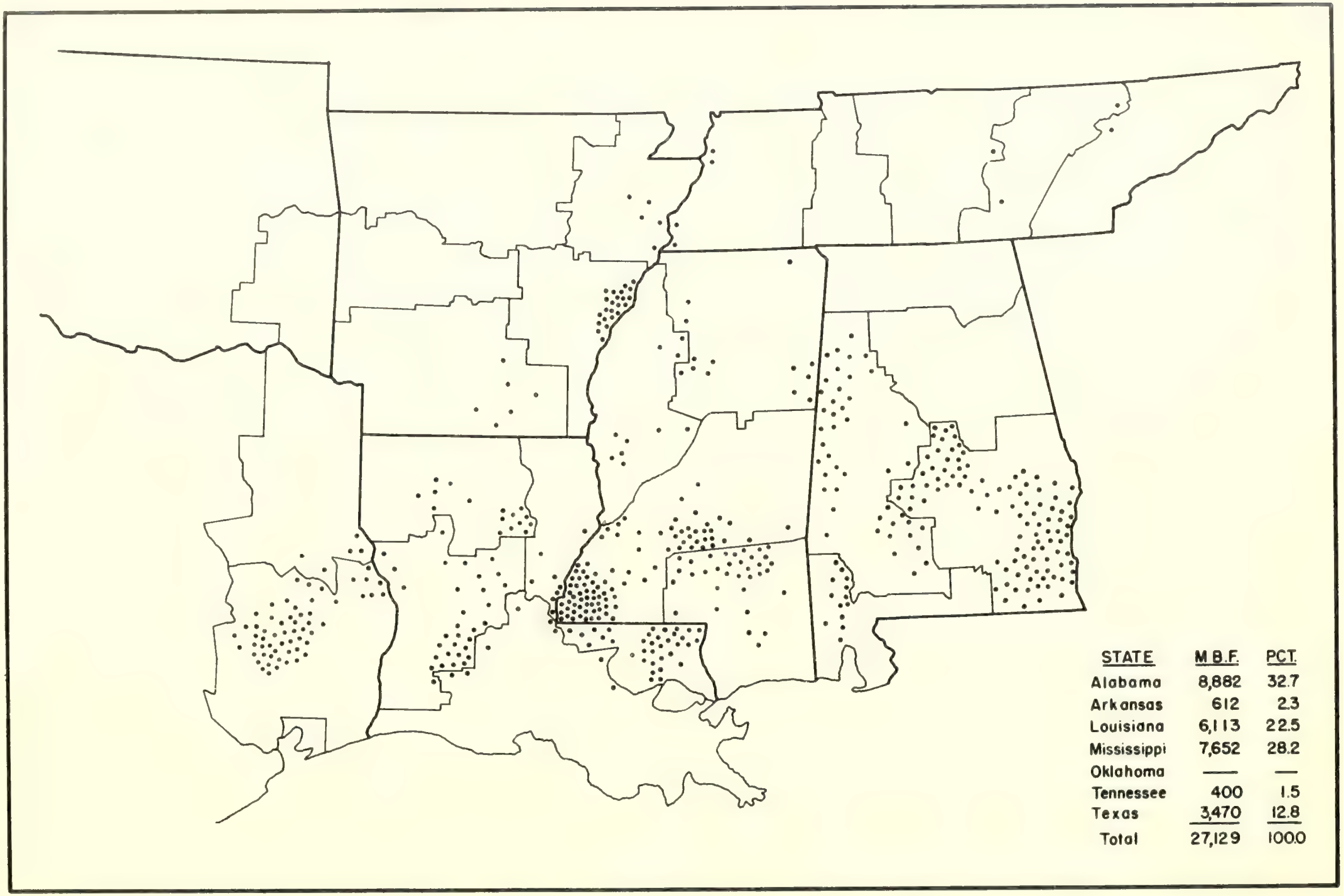
| STATE | M B.F. | PCT. |
|---|---|---|
| Alabama | 20,316 | 25.1 |
| Arkansas | 7,467 | 9.2 |
| Louisiana | 11,467 | 14.2 |
| Mississippi | 16,231 | 20.1 |
| Oklahoma | 478 | .6 |
| Tennessee | 22,675 | 28.1 |
| Texas | 2,151 | 2.7 |
| Total | 80,785 | 100.0 |

Figure 17.--Hickory. Each dot represents 100 M board feet of lumber sawn in 1946.



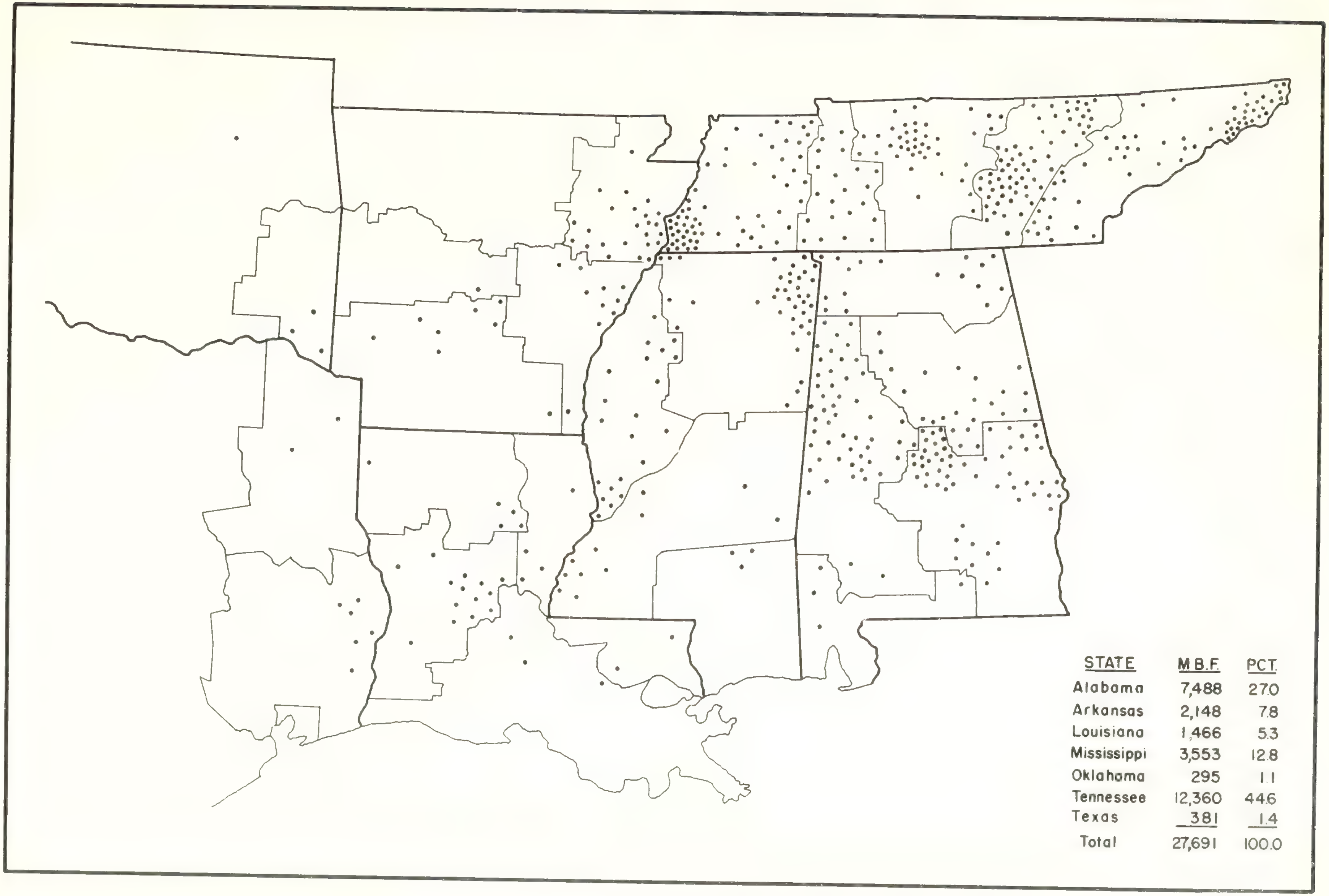
| STATE | M.B.F. | PCT. |
|---|---|---|
| Alabama | 34 | 1.8 |
| Arkansas | 138 | 7.1 |
| Louisiana | 1,340 | 69.2 |
| Mississippi | 125 | 6.5 |
| Oklahoma | 20 | 1.0 |
| Tennessee | 198 | 10.2 |
| Texas | 81 | 4.2 |
| Total | 1,936 | 100.0 |

Figure 18.--Locust. Each dot represents 10 M board feet of lumber sawn in 1946.



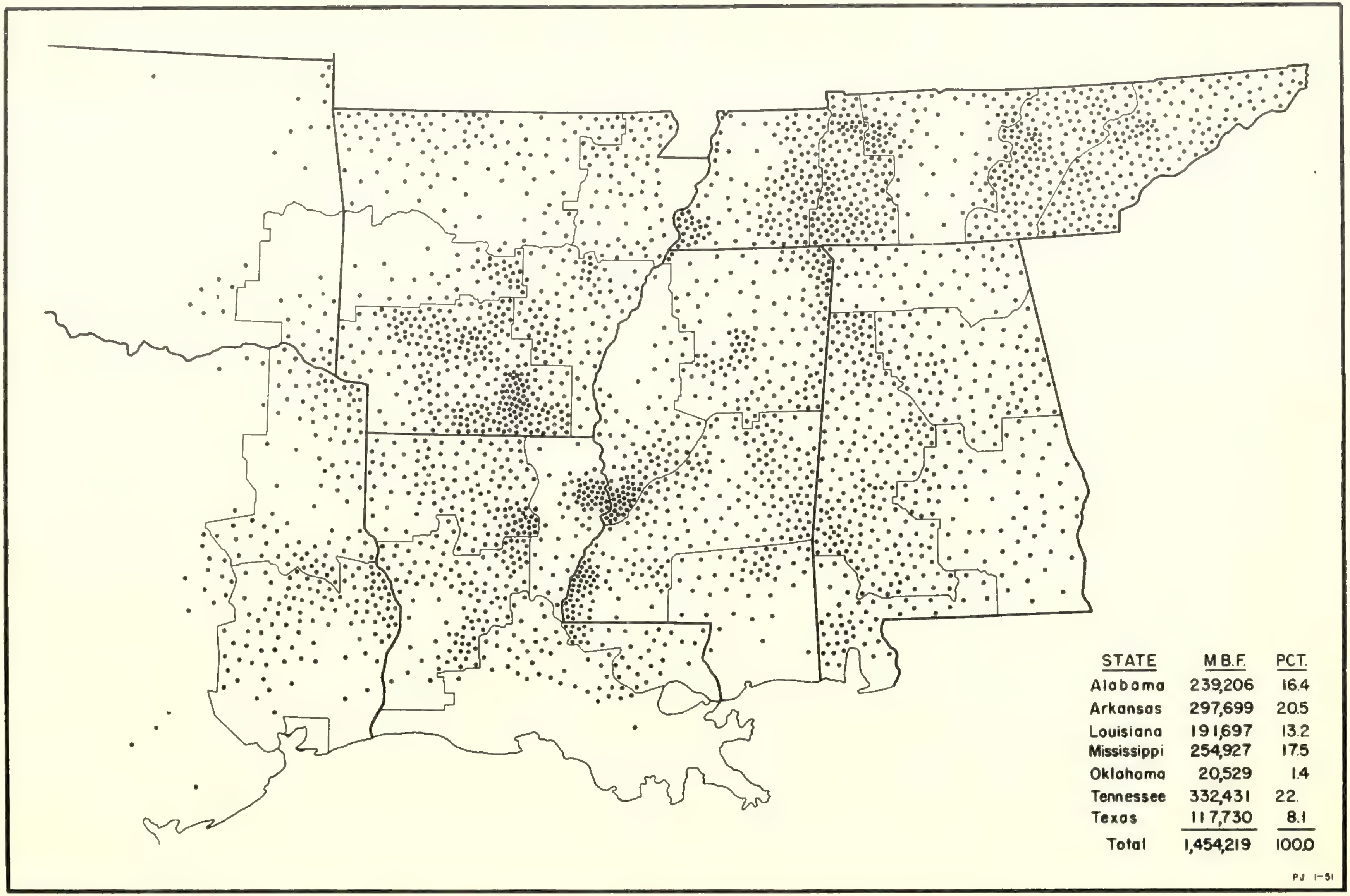
| STATE | M.B.F. | PCT. |
|---|---|---|
| Alabama | 8,882 | 32.7 |
| Arkansas | 612 | 2.3 |
| Louisiana | 6,113 | 22.5 |
| Mississippi | 7,652 | 28.2 |
| Oklahoma | — | — |
| Tennessee | 400 | 1.5 |
| Texas | 3,470 | 12.8 |
| Total | 27,129 | 100.0 |

Figure 19.--Magnolia. Each dot represents 50 M board feet of lumber sawn in 1946.



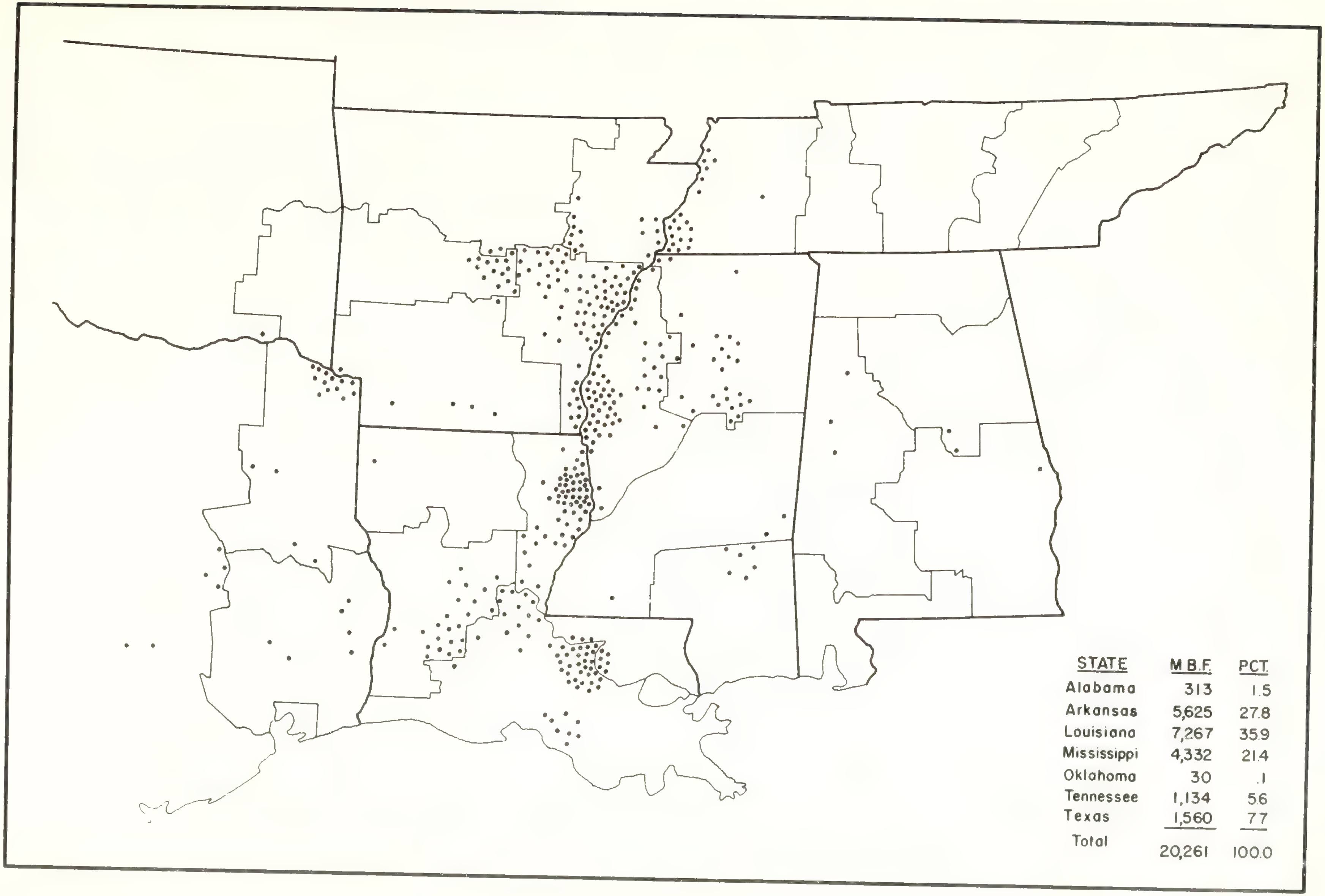
| STATE | M.B.F. | PCT. |
|---|---|---|
| Alabama | 7,488 | 27.0 |
| Arkansas | 2,148 | 7.8 |
| Louisiana | 1,466 | 5.3 |
| Mississippi | 3,553 | 12.8 |
| Oklahoma | 295 | 1.1 |
| Tennessee | 12,360 | 44.6 |
| Texas | 381 | 1.4 |
| Total | 27,691 | 100.0 |

Figure 20.--Maple. Each dot represents 50 M board feet of lumber sawn in 1946.



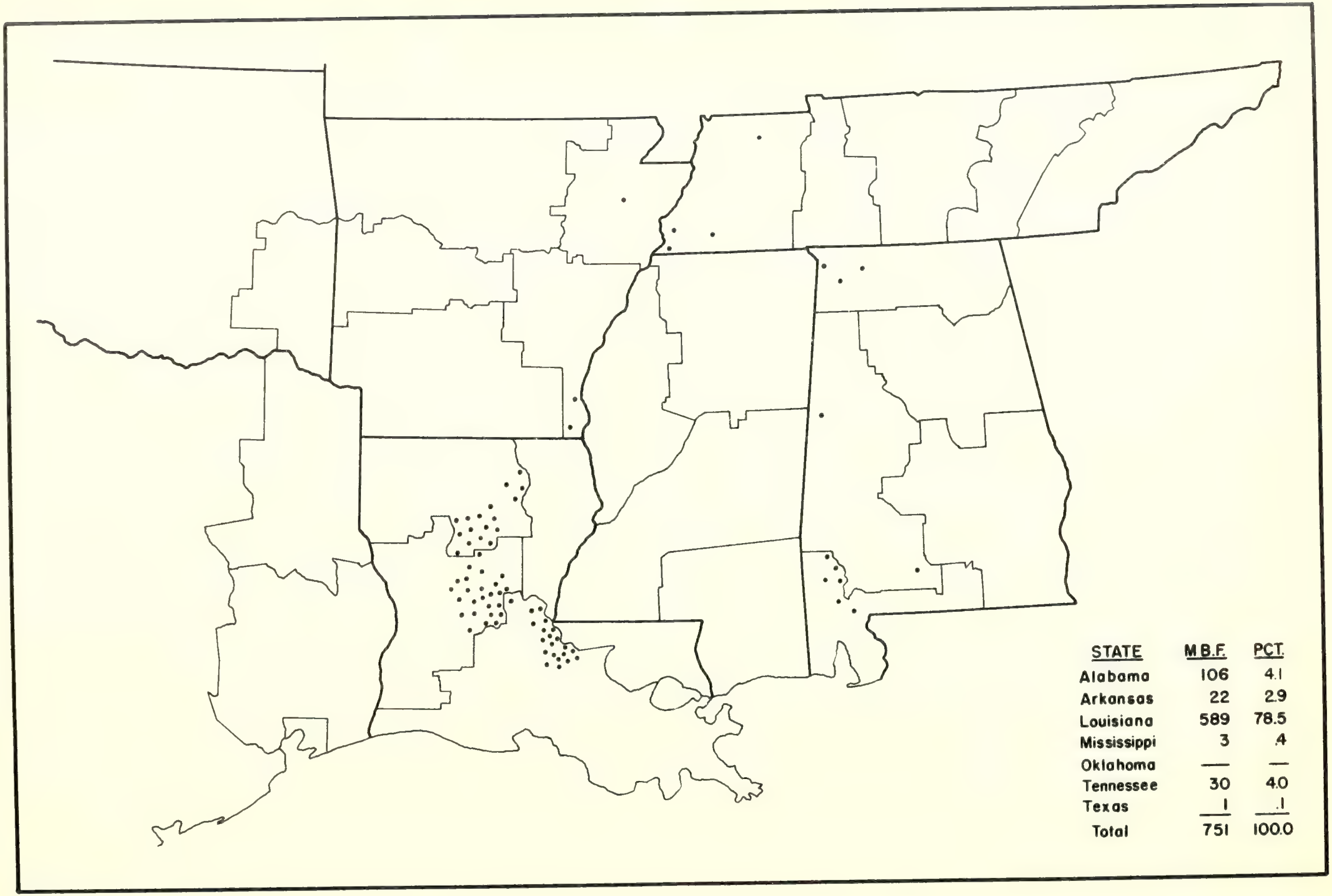
| STATE | M.B.F. | PCT. |
|---|---|---|
| Alabama | 239,206 | 16.4 |
| Arkansas | 297,699 | 20.5 |
| Louisiana | 191,697 | 13.2 |
| Mississippi | 254,927 | 17.5 |
| Oklahoma | 20,529 | 1.4 |
| Tennessee | 332,431 | 22. |
| Texas | 117,730 | 8.1 |
| Total | 1,454,219 | 100.0 |

Figure 21.--Oak. Each dot represents 500 M board feet of lumber sawn in 1946.



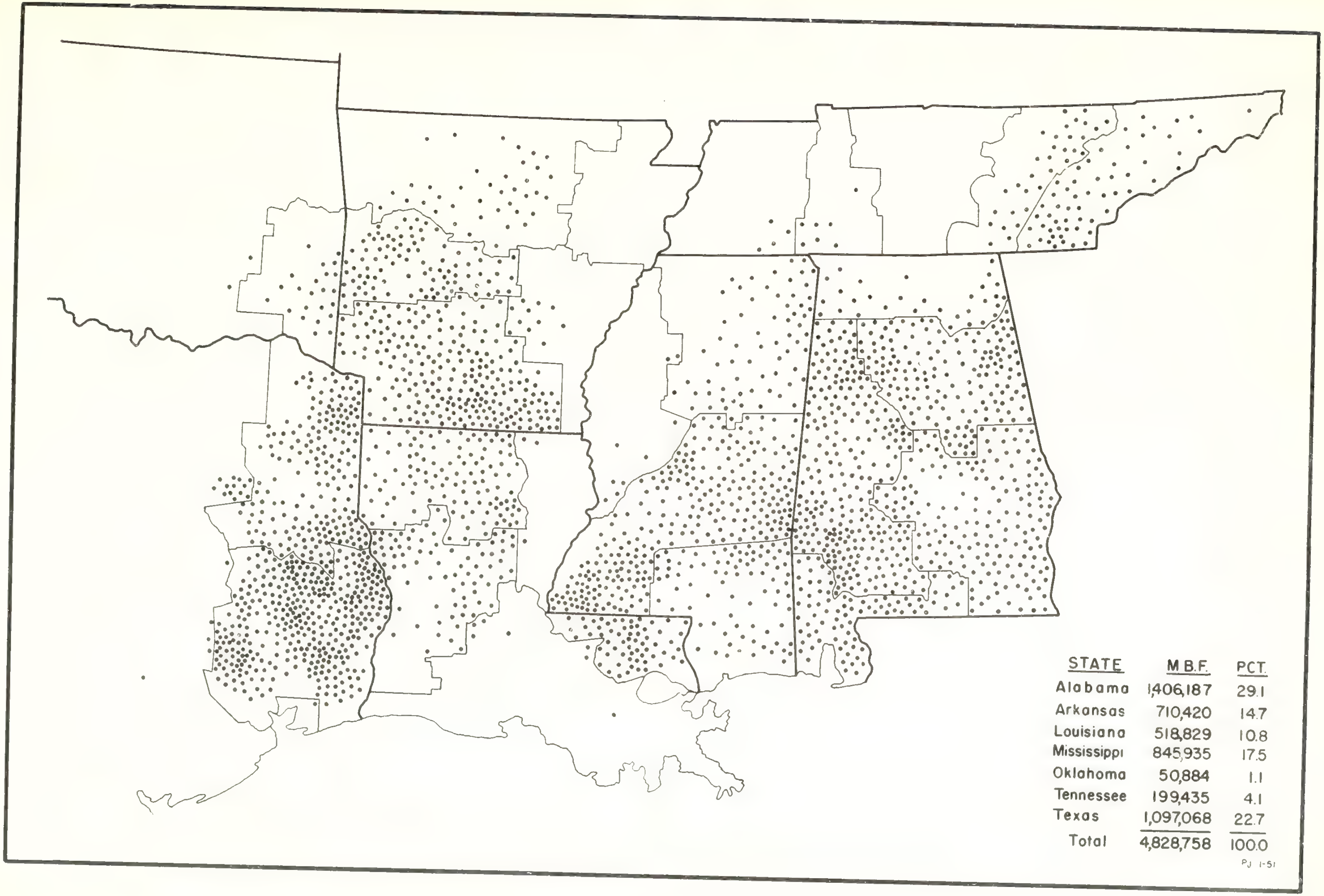
| STATE | M.B.F. | PCT. |
|---|---|---|
| Alabama | 313 | 1.5 |
| Arkansas | 5,625 | 27.8 |
| Louisiana | 7,267 | 35.9 |
| Mississippi | 4,332 | 21.4 |
| Oklahoma | 30 | .1 |
| Tennessee | 1,134 | 5.6 |
| Texas | 1,560 | 7.7 |
| Total | 20,261 | 100.0 |

Figure 22.--Pecan. Each dot represents 50 M board feet of lumber sawn in 1946.



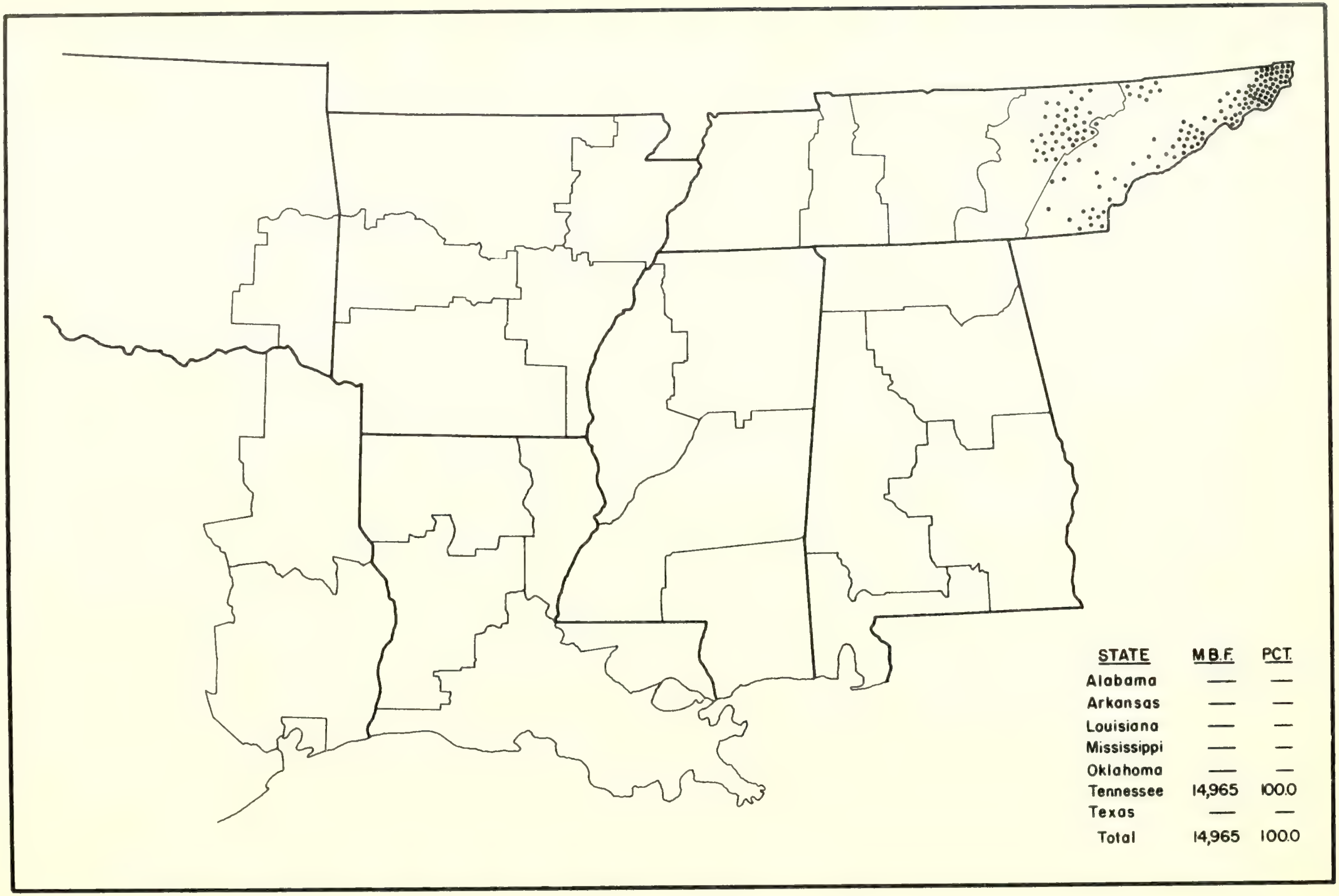
| STATE | M.B.F. | PCT. |
|---|---|---|
| Alabama | 106 | 4.1 |
| Arkansas | 22 | 2.9 |
| Louisiana | 589 | 78.5 |
| Mississippi | 3 | .4 |
| Oklahoma | — | — |
| Tennessee | 30 | 4.0 |
| Texas | 1 | .1 |
| Total | 751 | 100.0 |

Figure 23.--Persimmon. Each dot represents 10 M board feet of lumber sawn in 1946.



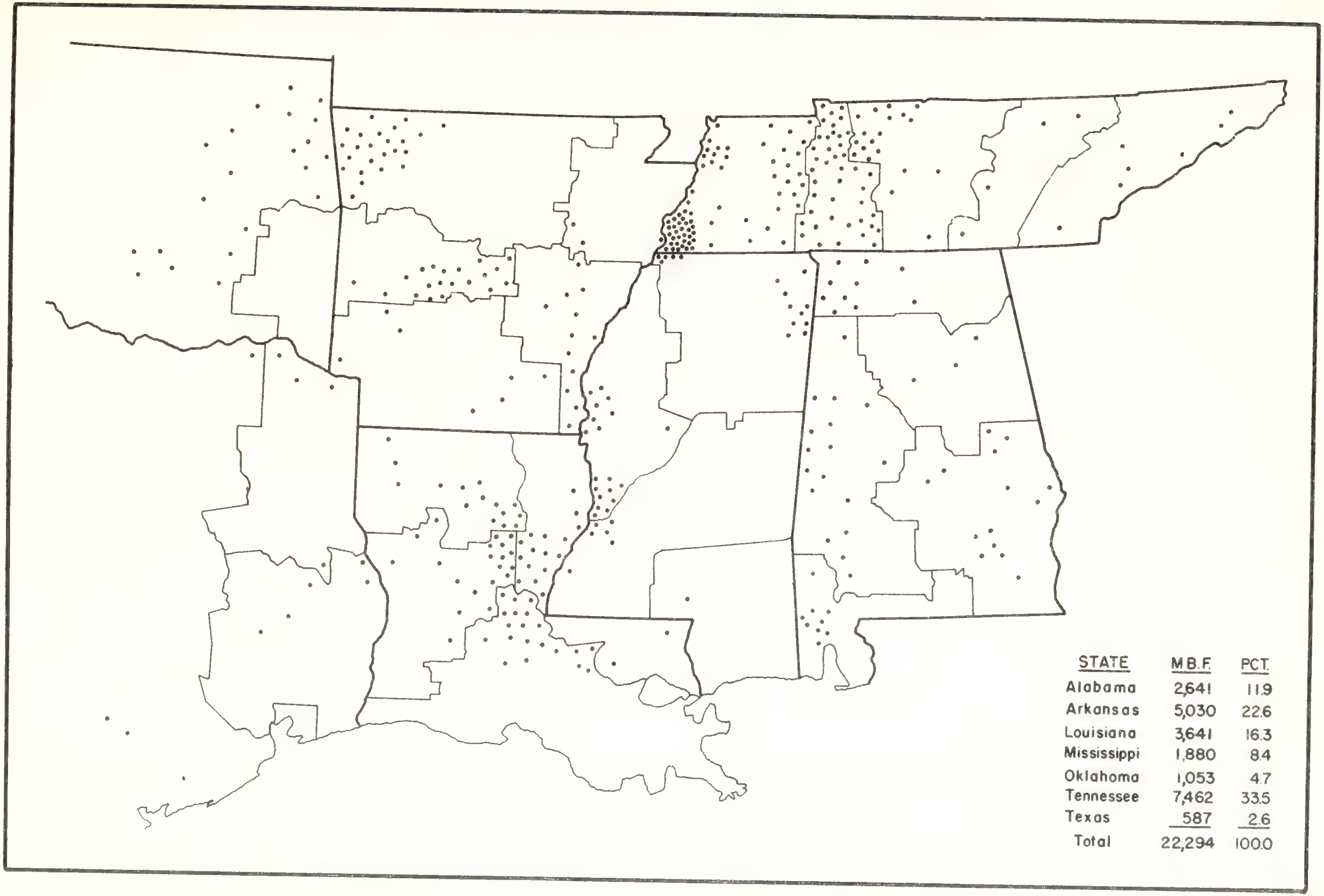
| STATE | M.B.F. | PCT. |
|---|---|---|
| Alabama | 1,406,187 | 29.1 |
| Arkansas | 710,420 | 14.7 |
| Louisiana | 518,829 | 10.8 |
| Mississippi | 845,935 | 17.5 |
| Oklahoma | 50,884 | 1.1 |
| Tennessee | 199,435 | 4.1 |
| Texas | 1,097,068 | 22.7 |
| Total | 4,828,758 | 100.0 |

Figure 24.--Southern yellow pine. Each dot represents 2,000 M board feet of lumber sawn in 1946.



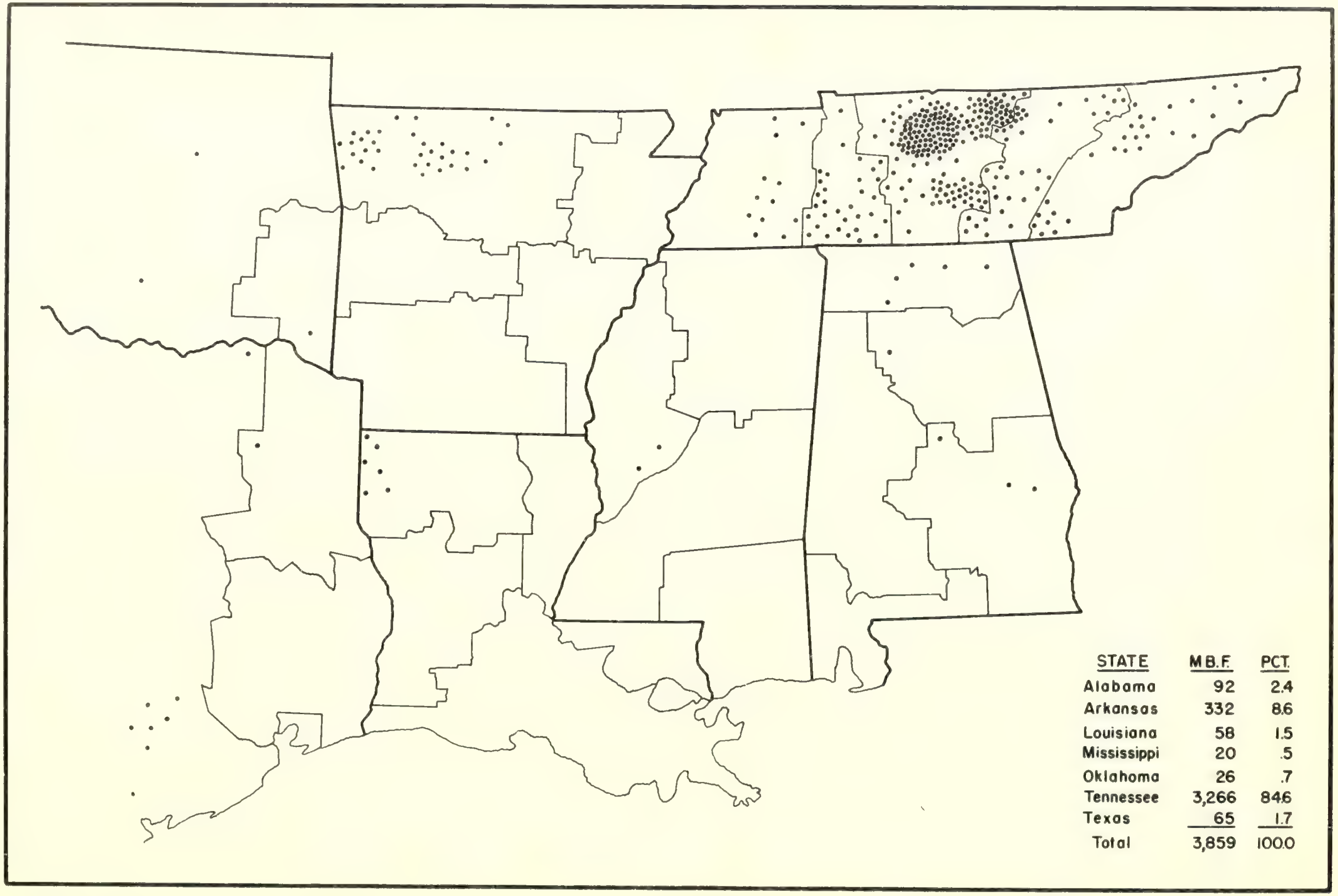
| STATE | M.B.F. | PCT. |
|---|---|---|
| Alabama | — | — |
| Arkansas | — | — |
| Louisiana | — | — |
| Mississippi | — | — |
| Oklahoma | — | — |
| Tennessee | 14,965 | 100.0 |
| Texas | — | — |
| Total | 14,965 | 100.0 |

Figure 25.--White pine. Each dot represents 100 M board feet of lumber sawn in 1946.



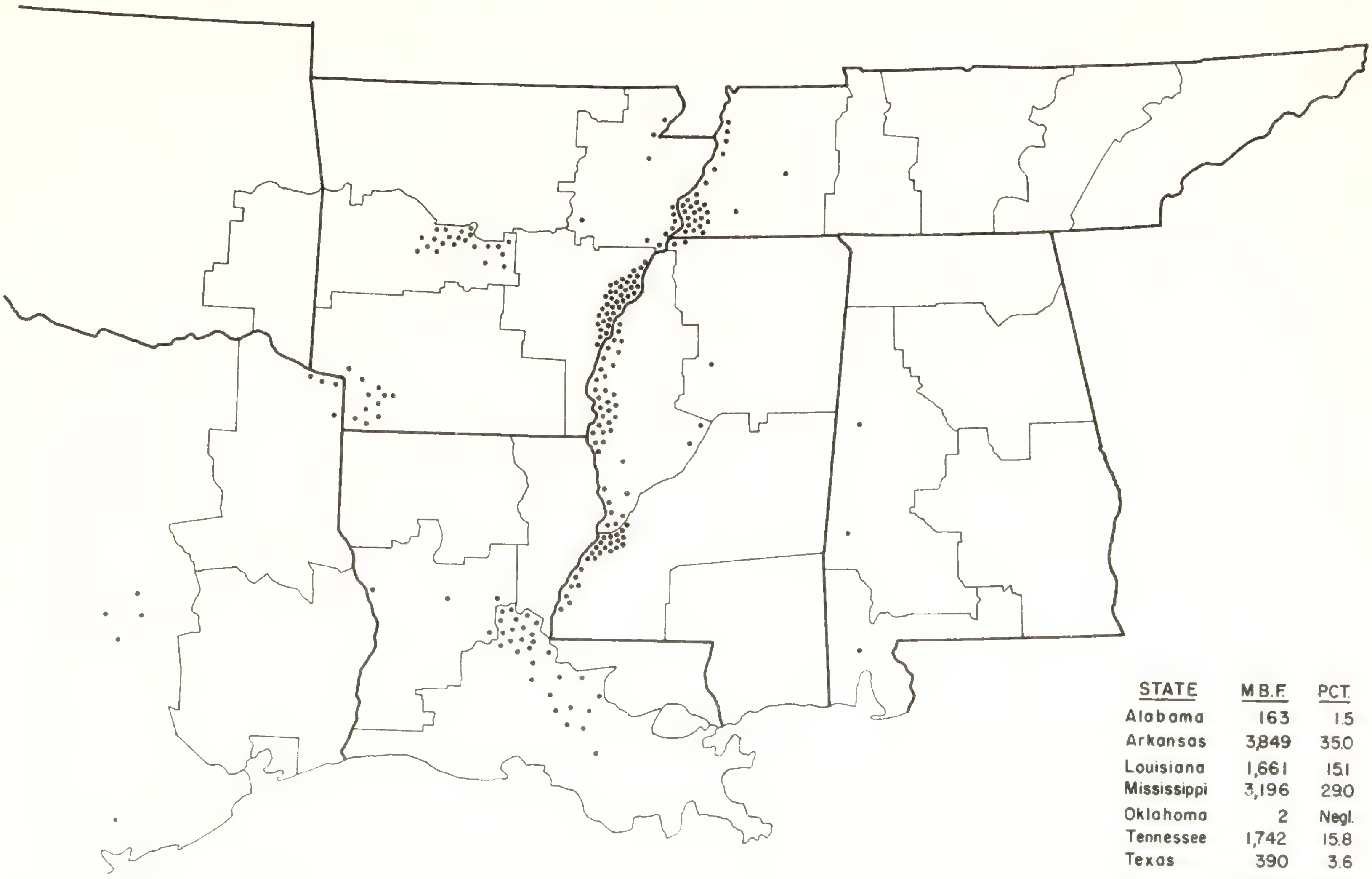
| STATE | M.B.F. | PCT. |
|---|---|---|
| Alabama | 2,641 | 11.9 |
| Arkansas | 5,030 | 22.6 |
| Louisiana | 3,641 | 16.3 |
| Mississippi | 1,880 | 8.4 |
| Oklahoma | 1,053 | 4.7 |
| Tennessee | 7,462 | 33.5 |
| Texas | 587 | 2.6 |
| Total | 22,294 | 100.0 |

Figure 26.--Sycamore. Each dot represents 50 M board feet of lumber sawn in 1946.



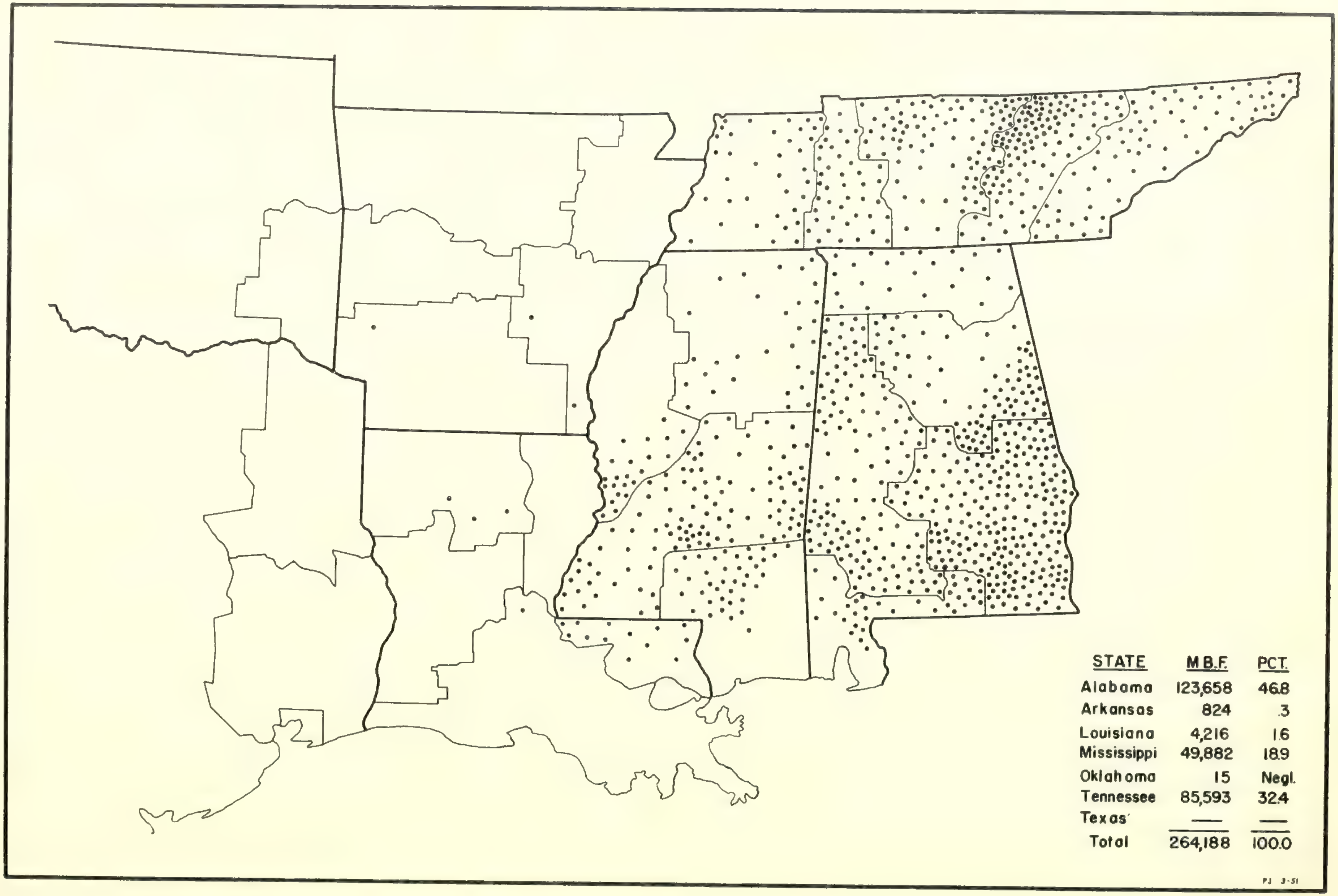
| STATE | M.B.F. | PCT. |
|---|---|---|
| Alabama | 92 | 2.4 |
| Arkansas | 332 | 8.6 |
| Louisiana | 58 | 1.5 |
| Mississippi | 20 | .5 |
| Oklahoma | 26 | .7 |
| Tennessee | 3,266 | 84.6 |
| Texas | 65 | 1.7 |
| Total | 3,859 | 100.0 |

Figure 27.—Walnut. Each dot represents 10 M board feet of lumber sawn in 1946.



| STATE | M.B.F. | PCT. |
|---|---|---|
| Alabama | 163 | 1.5 |
| Arkansas | 3,849 | 35.0 |
| Louisiana | 1,661 | 15.1 |
| Mississippi | 3,196 | 29.0 |
| Oklahoma | 2 | Negl. |
| Tennessee | 1,742 | 15.8 |
| Texas | 390 | 3.6 |
| Total | 11,003 | 100.0 |

Figure 28.--Willow. Each dot represents 50 M board feet of lumber sawn in 1946.



| STATE | M.B.F. | PCT. |
|---|---|---|
| Alabama | 123,658 | 46.8 |
| Arkansas | 824 | .3 |
| Louisiana | 4,216 | 1.6 |
| Mississippi | 49,882 | 18.9 |
| Oklahoma | 15 | Negl. |
| Tennessee | 85,593 | 32.4 |
| Texas | — | — |
| Total | 264,188 | 100.0 |

Figure 29.—Yellow-poplar. Each dot represents 250 M board feet of lumber sawn in 1946.

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AGRICULTURAL REFERENCE DEPARTMENT
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# 1950 PULPWOOD PRODUCTION IN THE SOUTH

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SOUTHERN PULPWOOD CONSERVATION ASSOCIATION
Atlanta, Ga.

## PREFACE

Through the McSweeney-McNary Act of 1928, Congress authorized the Secretary of Agriculture to conduct a survey of the forest resources of the United States. The Forest Survey was organized by the Forest Service to carry out the provisions of the Act. The Southeastern Forest Experiment Station, Asheville, North Carolina, is responsible for the work in Virginia, North Carolina, South Carolina, Georgia, and Florida. The Southern Forest Experiment Station, New Orleans, Louisiana, directs the work in Alabama, Arkansas, Louisiana, Mississippi, Oklahoma, Tennessee, and Texas.

The work of the Survey is divided into five major phases:

1. Inventory. Determination of the extent, location, and condition of forest lands, and the quantity, species, and quality of timber on these lands.

2. Growth. Determination of the current rate of timber growth.

3. Drain. Determination of the amount of industrial and domestic wood used, and the total loss resulting from fire, insects, disease, suppression, and other causes.

4. Requirements. Determination of the current and probable future requirements for forest products by all classes of consumers.

5. Policies and plans. Analysis of the relation of these findings to one another and to other economic factors as a basis for public and private policies and plans of forest land use and management.

## ACKNOWLEDGMENT

The statistics presented herein are based upon reports furnished by the wood procurement officials representing 61 mills located in, or drawing wood from the South. Reports showed either production by county or by shipping points which were used to assign production to counties. County data are approximate, but totals for small groups of counties should have little error.

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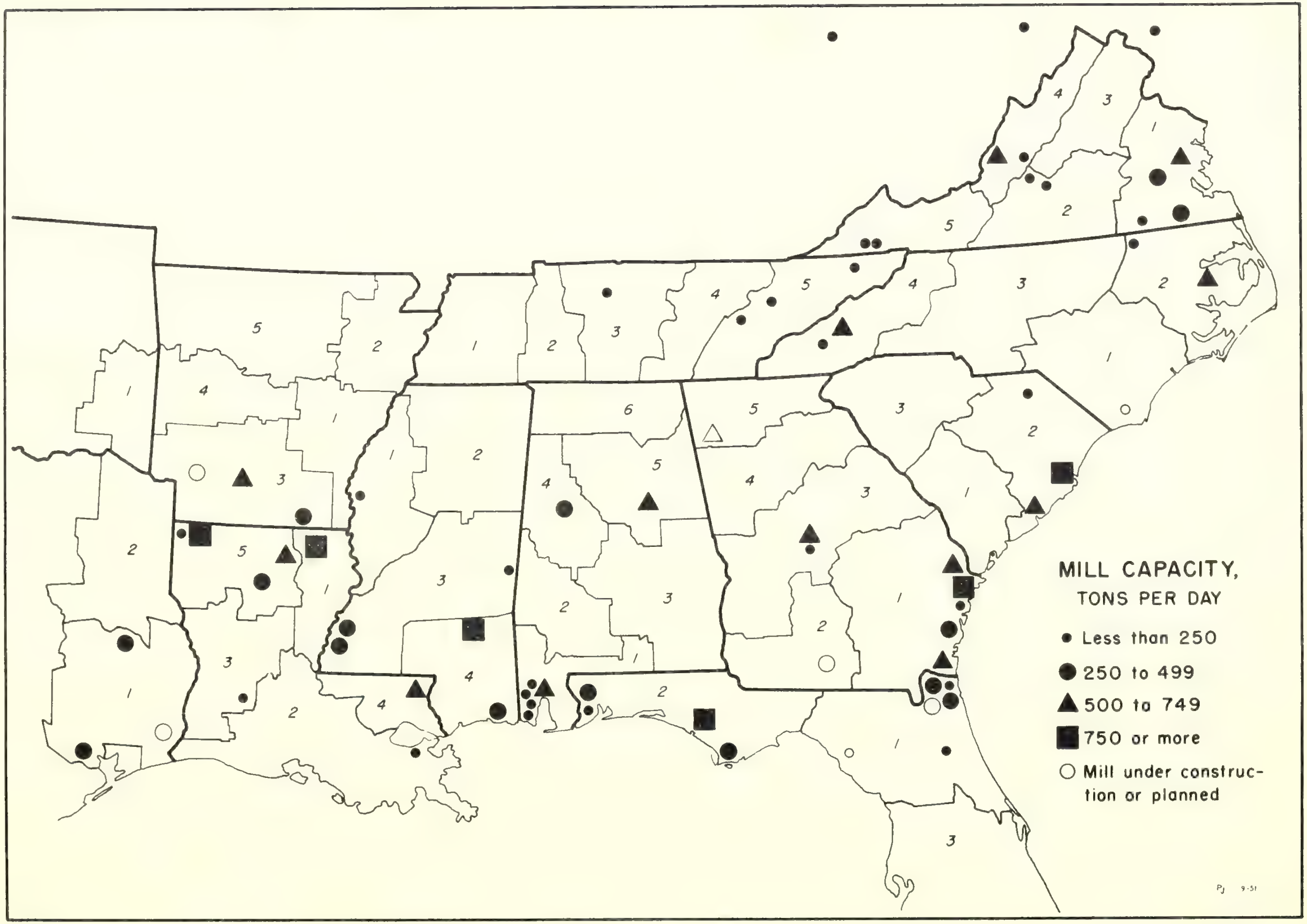
MILL CAPACITY, TONS PER DAY
● Less than 250
● 250 to 499
▲ 500 to 749
■ 750 or more
○ Mill under construction or planned
PJ 9-51

Figure I. — Pulp mills drawing wood from the South, 1950. Numbered areas are Forest Survey regions.

## 1950 PULPWOOD PRODUCTION IN THE SOUTH

In 1950 pulpwood production in the South rose to an all-time high of 12,435,700 cords, an increase of 25.3 percent above 1949, and 9.5 percent above the previous record year of 1948. The production of pine pulpwood was 11,170,400 cords, of hardwood 1,111,600 cords, and of dead chestnut 153,700 cords. Pine production was 24.9 percent above 1949, hardwood 37.4 percent more, and chestnut 9.3 percent less.

Since total receipts of domestic pulpwood at all mills in the United States were 20,714,000 cords in 1950, the South produced 60 percent of all the pulpwood cut in the Nation. Among the southern States, Georgia was the largest producer, accounting for almost 18 percent of the South's and 11 percent of the Nation's pulpwood cut (table 1). The other southern States, except Tennessee, showed an increase in production over 1949. The largest increase was in Alabama.

Production per county varied from none to nearly 190,000 cords. Twenty-six counties, distributed throughout the South, had cuts of over 60,000 cords apiece. The five leading counties were Baldwin and Mobile in Alabama, Georgetown and Fairfield in South Carolina, and Nassau in Florida (fig. 3, p. 28).

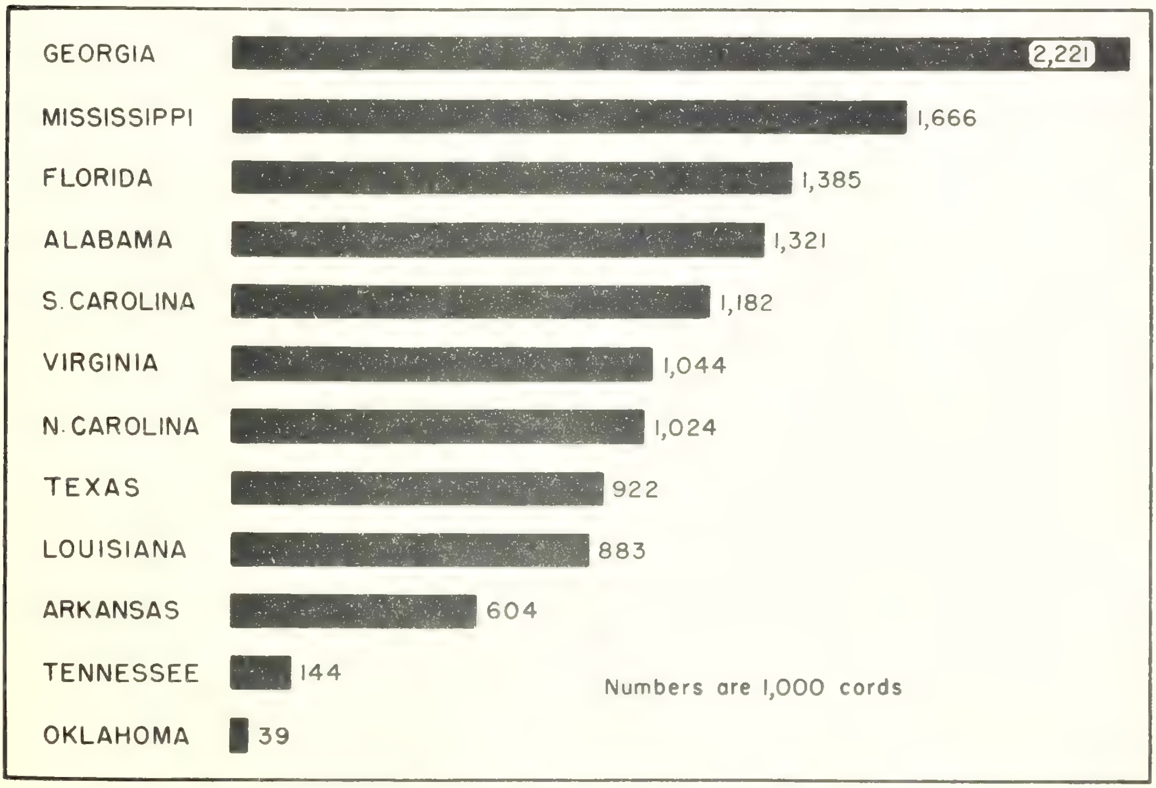

Figure 2.--Pulpwood production in the South, 1950

It is likely that the pattern of pulpwood production over the region will undergo important changes within the next few years. Under the defense accelerated tax amortization program, certificates of necessity have been issued for construction of approximately 6,230 tons daily of additional pulping capacity in the South, or 27 percent over present pulping capacity. A part of the additional capacity will come through expansion of existing mills, and a part through construction of new mills. Several other applications for accelerated tax amortization are being considered by the National Production Authority, but decision on them has not yet been reached. Tables 16, 17, and 18 list plants now drawing wood from the South, industry expansions for which certificates of necessity have been issued under the accelerated tax amortization program, and other construction that has been announced.

Table 1.--Pulpwood production in the South by State and species group, 1949 and 1950

| State | Percent change from 1949 | 1950 | | | 1949 | | |
|---|---|---|---|---|---|---|---|
| | | Total | Pine | Hardwood 1/ | Total | Pine | Hardwood 2/ |
| | | Thousand cords | | | | | |
| Ala. | +45.0 | 1,321.2 | 1,313.4 | 7.8 | 911.3 | 892.9 | 18.4 |
| Ark. | + 7.6 | 603.7 | 542.3 | 61.4 | 561.3 | 508.2 | 53.1 |
| Fla. | +33.6 | 1,384.7 | 1,384.5 | .2 | 1,036.1 | 1,034.4 | 1.7 |
| Ga. | +24.1 | 2,221.3 | 2,120.8 | 100.5 | 1,790.5 | 1,668.9 | 121.6 |
| La. | +16.3 | 883.3 | 825.5 | 57.8 | 759.8 | 726.1 | 33.7 |
| Miss. | +42.7 | 1,665.9 | 1,388.8 | 277.1 | 1,167.7 | 1,028.2 | 139.5 |
| N.C. | +27.7 | 1,024.0 | 790.4 | 233.6 | 802.1 | 620.2 | 181.9 |
| Okla. | + 2.4 | 38.8 | 38.8 | ... | 37.9 | 37.8 | .1 |
| S.C. | +16.8 | 1,182.4 | 1,068.6 | 113.8 | 1,012.2 | 913.5 | 98.7 |
| Tenn. | - 8.9 | 144.0 | 45.8 | 98.2 | 158.1 | 59.7 | 98.4 |
| Texas | +16.6 | 922.3 | 876.4 | 45.9 | 790.9 | 749.7 | 41.2 |
| Va. | +16.6 | 1,044.1 | 775.1 | 269.0 | 895.2 | 705.3 | 189.9 |
| All | +25.3 | 12,435.7 | 11,170.4 | 1,265.3 | 9,923.1 | 8,944.9 | 978.2 |

1/ Includes 153,700 cords of chestnut used for pulp.

2/ Includes 169,500 cords of chestnut used for pulp.

Table 2.--Pulpwood production in the Southeastern Station territory by State and survey unit, 1950

| State | Forest survey unit1/ | Species group | | | Total |
|---|---|---|---|---|---|
| | | Pine | Hardwood | Chestnut | |
| | Number | Standard cords | | | |
| Virginia | 1 | 388,910 | 11,012 | ... | 399,922 |
| | 2 | 265,314 | 77,916 | ... | 343,230 |
| | 3 | 85,904 | 59,663 | ... | 145,567 |
| | 4 | 30,622 | 88,639 | ... | 119,261 |
| | 5 | 4,361 | 12,349 | 19,457 | 36,167 |
| | All units | 775,111 | 249,579 | 19,457 | 1,044,147 |
| North Carolina | 1 | 301,718 | 12,336 | ... | 314,054 |
| | 2 | 178,830 | 7,665 | ... | 186,495 |
| | 3 | 174,836 | 10,908 | ... | 185,744 |
| | 4 | 135,050 | 111,552 | 91,110 | 337,712 |
| | All units | 790,434 | 142,461 | 91,110 | 1,024,005 |
| South Carolina | 1 | 256,620 | 30,805 | ... | 287,425 |
| | 2 | 470,666 | 65,445 | ... | 536,111 |
| | 3 | 341,320 | 17,557 | ... | 358,877 |
| | All units | 1,068,606 | 113,807 | ... | 1,182,413 |
| Georgia | 1 | 1,017,227 | 81,214 | ... | 1,098,441 |
| | 2 | 334,399 | 840 | ... | 335,239 |
| | 3 | 524,595 | 1,497 | ... | 526,092 |
| | 4 | 218,554 | 99 | ... | 218,653 |
| | 5 | 25,963 | 5,197 | 11,694 | 42,854 |
| | All units | 2,120,738 | 88,847 | 11,694 | 2,221,279 |
| Florida | 1 | 843,183 | 200 | ... | 843,383 |
| | 2 | 386,300 | ... | ... | 386,300 |
| | 3 | 141,163 | ... | ... | 141,163 |
| | 4 | 13,848 | ... | ... | 13,848 |
| | All units | 1,384,494 | 200 | ... | 1,384,694 |
| All States | - | 6,139,383 | 594,894 | 122,261 | 6,856,538 |

1/ For location of survey units, see Figure 1.

Table 3.--Pulpwood production in the Southern Station territory by State and survey unit, 1950

| State | Forest survey unit[1] | Species group | | | Total |
|---|---|---|---|---|---|
| | | Pine | Hardwood | Chestnut | |
| | Number | - - - - - - - | Standard cords | - - - - - - - | |
| Alabama | 1 | 401,236 | 100 | ... | 401,336 |
| | 2 | 215,290 | 258 | ... | 215,548 |
| | 3 | 376,429 | 2,466 | ... | 378,895 |
| | 4 | 157,279 | 4,034 | ... | 161,313 |
| | 5 | 152,754 | 972 | ... | 153,726 |
| | 6 | 10,386 | ... | ... | 10,386 |
| | All units | 1,313,374 | 7,830 | ... | 1,321,204 |
| Arkansas | 1 | 10,939 | 20,460 | ... | 31,399 |
| | 2 | ... | ... | ... | ... |
| | 3 | 443,162 | 38,400 | ... | 481,562 |
| | 4 | 84,412 | 2,400 | ... | 86,812 |
| | 5 | 3,809 | 100 | ... | 3,909 |
| | All units | 542,322 | 61,360 | ... | 603,682 |
| Louisiana | 1 | 14,430 | 17,586 | ... | 32,016 |
| | 2 | 48,508 | 3,200 | ... | 51,708 |
| | 3 | 203,212 | 1,500 | ... | 204,712 |
| | 4 | 211,962 | 4,850 | ... | 216,812 |
| | 5 | 347,431 | 30,627 | ... | 378,058 |
| | All units | 825,543 | 57,763 | ... | 883,306 |
| Mississippi | 1 | 32,443 | 31,074 | ... | 63,517 |
| | 2 | 47,889 | 23,299 | ... | 71,188 |
| | 3 | 756,125 | 136,045 | ... | 892,170 |
| | 4 | 552,286 | 86,702 | ... | 638,988 |
| | All units | 1,388,743 | 277,120 | ... | 1,665,863 |
| Oklahoma | All units | 38,831 | ... | ... | 38,831 |
| Tennessee | 1 | ... | 7,455 | ... | 7,455 |
| | 2 | ... | 3,802 | 4,331 | 8,133 |
| | 3 | ... | 3,088 | 5,814 | 8,902 |
| | 4 | ... | 26,413 | 7,140 | 33,553 |
| | 5 | 45,841 | 25,936 | 14,138 | 85,915 |
| | All units | 45,841 | 66,694 | 31,423 | 143,958 |
| Texas | 1 | 534,386 | 36,494 | ... | 570,880 |
| | 2 | 327,571 | 9,092 | ... | 336,663 |
| | 3 | 14,458 | 303 | ... | 14,761 |
| | All units | 876,415 | 45,889 | ... | 922,304 |
| All States | - | 5,031,069 | 516,656 | 31,423 | 5,579,148 |

[1] For location of survey units, see Figure 1.

Table 4.--Pulpwood production in Alabama, 1950

| County | Pine | Hardwood | Total |
|---|---|---|---|
| | - - - - - | Standard cords | - - - - - |
| Autauga | 2,722 | ... | 2,722 |
| Baldwin | 188,431 | ... | 188,431 |
| Barbour | 10,384 | ... | 10,384 |
| Bibb | 24,802 | 796 | 25,598 |
| Blount | 13,244 | ... | 13,244 |
| Bullock | 16,222 | ... | 16,222 |
| Butler | 33,988 | ... | 33,988 |
| Calhoun | 8,572 | ... | 8,572 |
| Chambers | 19,498 | ... | 19,498 |
| Cherokee | 1,860 | ... | 1,860 |
| Chilton | 10,543 | 1,362 | 11,905 |
| Choctaw | 26,411 | 100 | 26,511 |
| Clarke | 46,150 | 100 | 46,250 |
| Clay | 6,270 | ... | 6,270 |
| Cleburne | 2,855 | ... | 2,855 |
| Coffee | 16,841 | ... | 16,841 |
| Colbert | 92 | ... | 92 |
| Conecuh | 18,808 | ... | 18,808 |
| Coosa | 25,293 | ... | 25,293 |
| Covington | 24,312 | ... | 24,312 |
| Crenshaw | 6,630 | ... | 6,630 |
| Cullman | 5,044 | 436 | 5,480 |
| Dale | 9,542 | ... | 9,542 |
| Dallas | 24,367 | ... | 24,367 |
| Dekalb | 2,693 | ... | 2,693 |
| Elmore | 28,220 | ... | 28,220 |
| Escambia | 38,118 | 100 | 38,218 |
| Etowah | 7,321 | ... | 7,321 |
| Fayette | 23,182 | 2,202 | 25,384 |
| Franklin | 1,202 | ... | 1,202 |
| Geneva | 5,758 | ... | 5,758 |
| Greene | 9,454 | ... | 9,454 |
| Hale | 17,203 | ... | 17,203 |
| Henry | 7,412 | ... | 7,412 |
| Houston | 8,028 | ... | 8,028 |
| Jackson | 86 | ... | 86 |
| Jefferson | 3,794 | ... | 3,794 |
| Lamar | 2,595 | 467 | 3,062 |
| Lauderdale | ... | ... | ... |
| Lawrence | 362 | ... | 362 |
| Lee | 33,591 | ... | 33,591 |
| Limestone | ... | ... | ... |
| Lowndes | 29,184 | | 29,184 |
| Macon | 13,106 | 200 | 13,306 |
| Madison | 200 | ... | 200 |
| Marengo | 29,928 | ... | 29,928 |
| Marion | 3,477 | 499 | 3,976 |
| Marshall | 4,432 | ... | 4,432 |

Table 4.--Alabama (cont.)

| County | Pine | Hardwood | Total |
|---|---|---|---|
| | - - - - - Standard cords - - - - - | | |
| Mobile | 87,260 | ... | 87,260 |
| Monroe | 34,530 | ... | 34,530 |
| Montgomery | 33,927 | 100 | 34,027 |
| Morgan | 1,319 | ... | 1,319 |
| Perry | 13,593 | 70 | 13,663 |
| Pickens | 14,358 | ... | 14,358 |
| Pike | 22,569 | ... | 22,569 |
| Randolph | 8,009 | ... | 8,009 |
| Russell | 17,125 | 400 | 17,525 |
| St. Clair | 17,409 | ... | 17,409 |
| Shelby | 26,583 | ... | 26,583 |
| Sumter | 20,588 | ... | 20,588 |
| Talladega | 16,314 | ... | 16,314 |
| Tallapoosa | 26,772 | 404 | 27,176 |
| Tuscaloosa | 48,615 | ... | 48,615 |
| Walker | 9,024 | 331 | 9,355 |
| Washington | 63,115 | ... | 63,115 |
| Wilcox | 38,875 | 58 | 38,933 |
| Winston | 1,162 | 205 | 1,367 |
| Total | 1,313,374 | 7,830 | 1,321,204 |

Table 5.--Pulpwood production in Arkansas, 1950

| County | Pine | Hardwood | Total |
|---|---|---|---|
| | - - - - - Standard cords - - - - - | | |
| Arkansas | ... | 100 | 100 |
| Ashley | 10,142 | 9,300 | 19,442 |
| Baxter | ... | ... | ... |
| Benton | ... | ... | ... |
| Boone | ... | ... | ... |
| Bradley | 28,565 | 1,500 | 30,065 |
| Calhoun | 18,274 | ... | 18,274 |
| Carroll | ... | ... | ... |
| Chicot | ... | 2,530 | 2,530 |
| Clark | 29,978 | 2,800 | 32,778 |
| Clay | ... | ... | ... |
| Cleburne | ... | ... | ... |
| Cleveland | 18,825 | 200 | 19,025 |
| Columbia | 15,384 | 300 | 15,684 |
| Conway | 239 | ... | 239 |
| Craighead | ... | ... | ... |
| Crawford | ... | ... | ... |
| Crittenden | ... | ... | ... |
| Cross | ... | ... | ... |
| Dallas | 63,632 | 800 | 64,432 |
| Desha | ... | 7,000 | 7,000 |
| Drew | 6,306 | 7,400 | 13,706 |
| Faulkner | 102 | ... | 102 |
| Franklin | 118 | 100 | 218 |
| Fulton | ... | ... | ... |

Table 5.--Arkansas (cont.)

| County | Pine | Hardwood | Total |
|---|---|---|---|
| | - - - - - - Standard cords - - - - - - | | |
| Garland | 14,563 | 700 | 15,263 |
| Grant | 27,470 | 400 | 27,870 |
| Greene | ... | ... | ... |
| Hempstead | 16,943 | 600 | 17,543 |
| Hot Spring | 4,326 | 300 | 4,626 |
| Howard | 10,762 | 1,300 | 12,062 |
| Independence | ... | ... | ... |
| Izard | ... | ... | ... |
| Jackson | ... | ... | ... |
| Jefferson | 7,939 | 1,100 | 9,039 |
| Johnson | 800 | ... | 800 |
| Lafayette | 14,701 | 800 | 15,501 |
| Lawrence | ... | ... | ... |
| Lee | ... | ... | ... |
| Lincoln | 3,000 | 7,300 | 10,300 |
| Little River | 9,253 | ... | 9,253 |
| Logan | 5,420 | ... | 5,420 |
| Lonoke | ... | ... | ... |
| Madison | ... | ... | ... |
| Marion | ... | ... | ... |
| Miller | 8,508 | 200 | 8,708 |
| Mississippi | ... | ... | ... |
| Monroe | ... | ... | ... |
| Montgomery | 2,955 | 100 | 3,055 |
| Nevada | 19,176 | 700 | 19,876 |
| Newton | ... | ... | ... |
| Ouachita | 68,943 | 5,200 | 74,143 |
| Perry | 11,589 | ... | 11,589 |
| Phillips | ... | 2,430 | 2,430 |
| Pike | 20,566 | 1,200 | 21,766 |
| Poinsett | ... | ... | ... |
| Polk | 19,071 | ... | 19,071 |
| Pope | 2,550 | ... | 2,550 |
| Prairie | ... | ... | ... |
| Pulaski | 9,991 | 800 | 10,791 |
| Randolph | ... | ... | ... |
| St. Francis | ... | ... | ... |
| Saline | 7,911 | 800 | 8,711 |
| Scott | 1,900 | ... | 1,900 |
| Searcy | ... | ... | ... |
| Sebastian | 706 | ... | 706 |
| Sevier | 10,433 | ... | 10,433 |
| Sharp | ... | ... | ... |
| Stone | ... | ... | ... |
| Union | 40,975 | 5,400 | 46,375 |
| Van Buren | ... | ... | ... |
| Washington | ... | ... | ... |
| White | ... | ... | ... |
| Woodruff | ... | ... | ... |
| Yell | 10,306 | ... | 10,306 |
| Total | 542,322 | 61,360 | 603,682 |

Table 6.--Pulpwood production in Florida, 1950

| County | Pine | Hardwood | Total |
|---|---|---|---|
| | - - - - -Standard cords - - - - - | | |
| Alachua | 55,454 | ... | 55,454 |
| Baker | 41,320 | ... | 41,320 |
| Bay | 17,389 | ... | 17,389 |
| Bradford | 48,155 | ... | 48,155 |
| Brevard | 4,031 | ... | 4,031 |
| Broward | ... | ... | ... |
| Calhoun | 23,023 | ... | 23,023 |
| Charlotte | 100 | ... | 100 |
| Citrus | 5,370 | ... | 5,370 |
| Clay | 31,157 | ... | 31,157 |
| Collier | 100 | ... | 100 |
| Columbia | 49,040 | 100 | 49,140 |
| Dade | ... | ... | ... |
| De Soto | 5,831 | ... | 5,831 |
| Dixie | 9,108 | ... | 9,108 |
| Duval | 44,070 | ... | 44,070 |
| Escambia | 55,128 | ... | 55,128 |
| Flagler | 40,676 | ... | 40,676 |
| Franklin | 6,579 | ... | 6,579 |
| Gadsden | 32,258 | ... | 32,258 |
| Gilchrist | 5,377 | ... | 5,377 |
| Glades | 1,200 | ... | 1,200 |
| Gulf | 18,523 | ... | 18,523 |
| Hamilton | 64,524 | ... | 64,524 |
| Hardee | 7,000 | ... | 7,000 |
| Hendry | 400 | ... | 400 |
| Hernando | 11,007 | ... | 11,007 |
| Highlands | 600 | ... | 600 |
| Hillsborough | 8,208 | ... | 8,208 |
| Holmes | 17,048 | ... | 17,048 |
| Indian River | 4,031 | ... | 4,031 |
| Jackson | 54,631 | ... | 54,631 |
| Jefferson | 8,735 | ... | 8,735 |
| Lafayette | 1,500 | ... | 1,500 |
| Lake | 13,879 | ... | 13,879 |
| Lee | 8,017 | ... | 8,017 |
| Leon | 12,616 | ... | 12,616 |
| Levy | 29,998 | ... | 29,998 |
| Liberty | 16,296 | ... | 16,296 |
| Madison | 23,322 | ... | 23,322 |
| Manatee | 2,937 | ... | 2,937 |
| Marion | 75,044 | ... | 75,044 |
| Martin | ... | ... | ... |

Table 6.--Florida (cont.)

| County | Pine | Hardwood | Total |
|---|---|---|---|
| | - - - - - Standard cords - - - - - | | |
| Monroe | ... | ... | ... |
| Nassau | 92,515 | ... | 92,515 |
| Okaloosa | 20,995 | ... | 20,995 |
| Okeechobee | 4,156 | ... | 4,156 |
| Orange | 10,879 | ... | 10,879 |
| Osceola | 6,631 | ... | 6,631 |
| Palm Beach | 4,031 | ... | 4,031 |
| Pasco | 11,615 | ... | 11,615 |
| Pinellas | 1,700 | ... | 1,700 |
| Polk | 26,170 | ... | 26,170 |
| Putnam | 54,766 | ... | 54,766 |
| St. Johns | 57,061 | ... | 57,061 |
| St. Lucie | ... | ... | ... |
| Santa Rosa | 39,837 | ... | 39,837 |
| Sarasota | 2,100 | ... | 2,100 |
| Seminole | 8,562 | ... | 8,562 |
| Sumter | 6,456 | ... | 6,456 |
| Suwannee | 35,724 | 100 | 35,824 |
| Taylor | 35,784 | ... | 35,784 |
| Union | 29,242 | ... | 29,242 |
| Volusia | 19,346 | ... | 19,346 |
| Wakulla | 8,415 | ... | 8,415 |
| Walton | 27,778 | ... | 27,778 |
| Washington | 27,049 | ... | 27,049 |
| Total | 1,384,494 | 200 | 1,384,694 |

Table 7.--Pulpwood production in Georgia, 1950

| County | Pine | Hardwood | Chestnut | Total |
|---|---|---|---|---|
| | - - - - - - | -Standard cords | - - - - - - | |
| Appling | 32,584 | 5,204 | ... | 37,788 |
| Atkinson | 28,362 | 74 | ... | 28,436 |
| Bacon | 15,231 | 376 | ... | 15,607 |
| Baker | ... | ... | ... | ... |
| Baldwin | 7,224 | ... | ... | 7,224 |
| Banks | 909 | ... | ... | 909 |
| Barrow | 1,786 | ... | ... | 1,786 |
| Bartow | 1,633 | ... | ... | 1,633 |
| Ben Hill | 11,323 | 105 | ... | 11,428 |
| Berrien | 16,852 | 304 | ... | 17,156 |
| Bibb | 10,180 | 100 | ... | 10,280 |
| Bleckley | 3,946 | 31 | ... | 3,977 |
| Brantley | 27,131 | 4,471 | ... | 31,602 |
| Brooks | 14,697 | ... | ... | 14,697 |
| Bryan | 80,557 | 76 | ... | 80,633 |
| Bulloch | 39,050 | 100 | ... | 39,150 |
| Burke | 10,905 | 300 | ... | 11,205 |
| Butts | 4,189 | ... | ... | 4,189 |
| Calhoun | 9,382 | 4 | ... | 9,386 |
| Camden | 72,477 | 5,517 | ... | 77,994 |
| Candler | 13,300 | 200 | ... | 13,500 |
| Carroll | 3,518 | ... | ... | 3,518 |
| Catoosa | ... | ... | ... | ... |
| Charlton | 53,989 | 56 | ... | 54,045 |
| Chatham | 21,150 | 7,844 | ... | 28,994 |
| Chattahoochee | 4,603 | 100 | ... | 4,703 |
| Chattooga | 829 | ... | ... | 829 |
| Cherokee | 530 | ... | ... | 530 |
| Clarke | 4,276 | ... | ... | 4,276 |
| Clay | 6,676 | ... | ... | 6,676 |
| Clayton | 3,592 | ... | ... | 3,592 |
| Clinch | 51,099 | 168 | ... | 51,267 |
| Cobb | 4,593 | ... | ... | 4,593 |
| Coffee | 23,839 | 642 | ... | 24,481 |
| Colquitt | 17,094 | 48 | ... | 17,142 |
| Columbia | 15,320 | 100 | ... | 15,420 |
| Cook | 6,959 | 14 | ... | 6,973 |
| Coweta | 10,888 | ... | ... | 10,888 |
| Crawford | 17,823 | ... | ... | 17,823 |
| Crisp | 8,366 | ... | ... | 8,366 |
| Dade | ... | ... | ... | ... |
| Dawson | ... | ... | ... | ... |
| Decatur | 38,984 | 5 | ... | 38,989 |
| De Kalb | 162 | ... | ... | 162 |
| Dodge | 27,530 | 5,606 | ... | 33,136 |
| Dooly | 3,543 | ... | ... | 3,543 |
| Dougherty | 9,327 | ... | ... | 9,327 |
| Douglas | 3,000 | ... | ... | 3,000 |
| Early | 15,167 | ... | ... | 15,167 |
| Echols | 8,525 | 42 | ... | 8,567 |
| Effingham | 70,971 | 76 | ... | 71,047 |
| Elbert | 8,631 | ... | ... | 8,631 |
| Emanuel | 26,835 | 100 | ... | 26,935 |

Table 7.--Georgia (cont.)

| County | Pine | Hardwood | Chestnut | Total |
|---|---|---|---|---|
| | - - - - - - - Standard cords - - - - - - - | | | |
| Fannin | 4,667 | 4,395 | 4,678 | 13,740 |
| Fayette | 2,473 | ... | ... | 2,473 |
| Floyd | 4,154 | ... | ... | 4,154 |
| Forsyth | ... | ... | ... | ... |
| Franklin | 2,674 | ... | ... | 2,674 |
| Fulton | 2,759 | ... | ... | 2,759 |
| Gilmer | 2,863 | 674 | ... | 3,537 |
| Glascock | 300 | ... | ... | 300 |
| Glynn | 12,314 | 6,256 | ... | 18,570 |
| Gordon | 2,313 | ... | ... | 2,313 |
| Grady | 26,913 | ... | ... | 26,913 |
| Greene | 21,569 | 100 | ... | 21,669 |
| Gwinnett | 2,541 | ... | ... | 2,541 |
| Habersham | 1,384 | ... | ... | 1,384 |
| Hall | 5,006 | ... | ... | 5,006 |
| Hancock | 16,995 | 100 | ... | 17,095 |
| Haralson | 8,163 | ... | ... | 8,163 |
| Harris | 25,104 | ... | ... | 25,104 |
| Hart | 900 | ... | ... | 900 |
| Heard | ... | ... | ... | ... |
| Henry | 16,384 | ... | ... | 16,384 |
| Houston | 8,325 | ... | ... | 8,325 |
| Irwin | 12,854 | 192 | ... | 13,046 |
| Jackson | 11,101 | ... | ... | 11,101 |
| Jasper | 28,414 | ... | ... | 28,414 |
| Jeff Davis | 32,451 | 1,324 | ... | 33,775 |
| Jefferson | 9,018 | 15 | ... | 9,033 |
| Jenkins | 11,926 | ... | ... | 11,926 |
| Johnson | 7,805 | ... | ... | 7,805 |
| Jones | 26,514 | ... | ... | 26,514 |
| Lamar | 18,004 | ... | ... | 18,004 |
| Lanier | 12,773 | 25 | ... | 12,798 |
| Laurens | 27,044 | 1,843 | ... | 28,887 |
| Lee | 2,885 | ... | ... | 2,885 |
| Liberty | 49,823 | 3,328 | ... | 53,151 |
| Lincoln | 3,150 | ... | ... | 3,150 |
| Long | 15,340 | 2,494 | ... | 17,834 |
| Lowndes | 40,668 | 62 | ... | 40,730 |
| Lumpkin | ... | ... | ... | ... |
| McDuffie | 6,612 | ... | ... | 6,612 |
| McIntosh | 49,872 | 11,219 | ... | 61,091 |
| Macon | 5,786 | ... | ... | 5,786 |
| Madison | 14,916 | ... | ... | 14,916 |
| Marion | 11,366 | ... | ... | 11,366 |
| Meriwether | 24,381 | ... | ... | 24,381 |
| Miller | 7,329 | ... | ... | 7,329 |
| Mitchell | 16,982 | 3 | ... | 16,985 |
| Monroe | 38,831 | 200 | ... | 39,031 |
| Montgomery | 9,500 | 2,574 | ... | 12,074 |
| Morgan | 20,232 | 100 | ... | 20,332 |
| Murray | 180 | ... | ... | 180 |
| Muscogee | 5,998 | ... | ... | 5,998 |
| Newton | 18,710 | ... | ... | 18,710 |
| Oconee | 9,105 | ... | ... | 9,105 |

Table 7.--Georgia (cont.)

| County | Pine | Hardwood | Chestnut | Total |
|---|---|---|---|---|
| | | - - - - -Standard cords - - - - - | | |
| Oglethorpe | 15,590 | ... | ... | 15,590 |
| Paulding | 98 | ... | ... | 98 |
| Peach | 3,499 | ... | ... | 3,499 |
| Pickens | 3,972 | 16 | ... | 3,988 |
| Pierce | 7,317 | 188 | ... | 7,505 |
| Pike | 4,448 | ... | ... | 4,448 |
| Polk | 3,003 | 99 | ... | 3,102 |
| Pulaski | 3,771 | 147 | ... | 3,918 |
| Putnam | 11,138 | ... | ... | 11,138 |
| Quitman | 2,461 | ... | ... | 2,461 |
| Rabun | 603 | 51 | ... | 654 |
| Randolph | 6,026 | ... | ... | 6,026 |
| Richmond | 2,187 | ... | ... | 2,187 |
| Rockdale | 1,692 | ... | ... | 1,692 |
| Schley | 3,705 | ... | ... | 3,705 |
| Screven | 22,246 | 664 | ... | 22,910 |
| Seminole | 10,184 | ... | ... | 10,184 |
| Spalding | 9,206 | ... | ... | 9,206 |
| Stephens | 1,712 | 61 | ... | 1,773 |
| Stewart | 9,764 | 100 | ... | 9,864 |
| Sumter | 8,811 | ... | ... | 8,811 |
| Talbot | 24,637 | ... | ... | 24,637 |
| Taliaferro | 7,806 | 100 | ... | 7,906 |
| Tattnall | 15,502 | ... | ... | 15,502 |
| Taylor | 6,959 | ... | ... | 6,959 |
| Telfair | 12,429 | 5,236 | ... | 17,665 |
| Terrell | 2,850 | ... | ... | 2,850 |
| Thomas | 24,367 | 6 | ... | 24,373 |
| Tift | 11,388 | 63 | ... | 11,451 |
| Toombs | 26,818 | 2,723 | ... | 29,541 |
| Towns | ... | ... | ... | ... |
| Treutlen | 18,521 | 1,301 | ... | 19,822 |
| Troup | 25,536 | ... | ... | 25,536 |
| Turner | 6,616 | ... | ... | 6,616 |
| Twiggs | 16,495 | ... | ... | 16,495 |
| Union | ... | ... | 7,016 | 7,016 |
| Upson | 15,075 | ... | ... | 15,075 |
| Walker | 1,123 | ... | ... | 1,123 |
| Walton | 2,961 | ... | ... | 2,961 |
| Ware | 35,007 | 199 | ... | 35,206 |
| Warren | 1,700 | ... | ... | 1,700 |
| Washington | 17,476 | ... | ... | 17,476 |
| Wayne | 45,954 | 10,007 | ... | 55,961 |
| Webster | 2,732 | ... | ... | 2,732 |
| Wheeler | 15,925 | 1,306 | ... | 17,231 |
| White | ... | ... | ... | ... |
| Whitfield | ... | ... | ... | ... |
| Wilcox | 7,909 | ... | ... | 7,909 |
| Wilkes | 14,288 | ... | ... | 14,288 |
| Wilkinson | 10,089 | ... | ... | 10,089 |
| Worth | 23,431 | 13 | ... | 23,444 |
| Total | 2,120,738 | 88,847 | 11,694 | 2,221,279 |

Table 8.--Pulpwood production in Louisiana, 1950

| Parish | Pine | Hardwood | Total |
|---|---|---|---|
| | - - - - | Standard cords | - - - - - - |
| Acadia | 2,241 | ... | 2,241 |
| Allen | 26,729 | 900 | 27,629 |
| Ascension | 432 | ... | 432 |
| Assumption | ... | ... | ... |
| Avoyelles | 363 | ... | 363 |
| Beauregard | 9,041 | ... | 9,041 |
| Bienville | 38,022 | 600 | 38,622 |
| Bossier | 28,671 | 300 | 28,971 |
| Caddo | 14,238 | 3,227 | 17,465 |
| Calcasieu | 13,018 | ... | 13,018 |
| Caldwell | 15,948 | 100 | 16,048 |
| Cameron | ... | ... | ... |
| Catahoula | 134 | 100 | 234 |
| Claiborne | 25,332 | ... | 25,332 |
| Concordia | ... | 200 | 200 |
| De Soto | 18,884 | ... | 18,884 |
| East Baton Rouge | 1,130 | 600 | 1,730 |
| East Carroll | ... | 3,702 | 3,702 |
| East Feliciana | 19,473 | 1,200 | 20,673 |
| Evangeline | 11,997 | ... | 11,997 |
| Franklin | 296 | ... | 296 |
| Grant | 29,319 | 100 | 29,419 |
| Iberia | 400 | ... | 400 |
| Iberville | ... | ... | ... |
| Jackson | 43,701 | 1,100 | 44,801 |
| Jefferson | ... | ... | ... |
| Jefferson Davis | 8,923 | 100 | 9,023 |
| Lafayette | ... | ... | ... |
| Lafourche | ... | ... | ... |
| La Salle | 14,457 | 300 | 14,757 |
| Lincoln | 19,249 | 800 | 20,049 |
| Livingston | 77,079 | 215 | 77,294 |
| Madison | ... | 7,184 | 7,184 |
| Morehouse | 13,082 | 4,200 | 17,282 |
| Natchitoches | 23,940 | ... | 23,940 |
| Orleans | ... | ... | ... |
| Ouachita | 20,219 | 700 | 20,919 |
| Plaquemines | ... | ... | ... |
| Pointe Coupe | ... | ... | ... |
| Rapides | 36,835 | 200 | 37,035 |
| Red River | 7,300 | ... | 7,300 |
| Richland | 518 | 200 | 718 |
| Sabine | 32,342 | ... | 32,342 |
| St. Bernard | ... | ... | ... |
| St. Charles | ... | ... | ... |
| St. Helena | 5,388 | ... | 5,388 |
| St. James | ... | ... | ... |
| St. John the Baptist | ... | ... | ... |

Table 8.--Louisiana (cont.)

| Parish | Pine | Hardwood | Total |
|---|---|---|---|
| | - - - - | Standard cords | - - - - |
| St. Landry | 1,075 | 100 | 1,175 |
| St Martin | ... | ... | ... |
| St. Mary | ... | 400 | 400 |
| St. Tammany | 29,885 | 30 | 29,915 |
| Tangipahoa | 45,422 | 432 | 45,854 |
| Tensas | ... | 100 | 100 |
| Terrebonne | ... | ... | ... |
| Union | 40,800 | 22,200 | 63,000 |
| Vermilion | ... | ... | ... |
| Vernon | 17,531 | ... | 17,531 |
| Washington | 54,188 | 4,173 | 58,361 |
| Webster | 20,614 | 800 | 21,414 |
| West Baton Rouge | ... | ... | ... |
| West Carroll | 400 | 1,900 | 2,300 |
| West Feliciana | 2,474 | 800 | 3,274 |
| Winn | 54,453 | 800 | 55,253 |
| Total | 825,543 | 57,763 | 883,306 |

Table 9.--Pulpwood production in Oklahoma, 1950

| County[1] | Pine | Hardwood | Total |
|---|---|---|---|
| | | Standard cords | |
| Adair | 400 | ... | 400 |
| Choctaw | 4,623 | ... | 4,623 |
| Latimer | 5,200 | ... | 5,200 |
| Leflore | 12,458 | ... | 12,458 |
| McCurtain | 7,881 | ... | 7,881 |
| Pushmataha | 8,269 | ... | 8,269 |
| Total | 38,831 | ... | 38,831 |

[1] Counties with no pulpwood production are omitted.

Table 10.--Pulpwood production in Mississippi, 1950

| County | Pine | Hardwood | Total |
|---|---|---|---|
| | - - - - -Standard cords | - - - - - | |
| Adams | 17,877 | 6,363 | 24,240 |
| Alcorn | ... | 5,313 | 5,313 |
| Amite | 16,436 | 2,184 | 18,620 |
| Attala | 35,596 | 7,732 | 43,328 |
| Benton | 800 | 300 | 1,100 |
| Bolivar | ... | 6,619 | 6,619 |
| Calhoun | 100 | ... | 100 |
| Carroll | 2,730 | 656 | 3,386 |
| Chickasaw | 4,200 | 400 | 4,600 |
| Choctaw | 6,548 | 3,043 | 9,591 |
| Claiborne | 9,669 | 2,602 | 12,271 |
| Clarke | 36,283 | 5,899 | 42,182 |
| Clay | 780 | 400 | 1,180 |
| Coahoma | ... | 2,974 | 2,974 |
| Copiah | 72,059 | 12,217 | 84,276 |
| Covington | 28,559 | 9,332 | 37,891 |
| De Soto | ... | 4,612 | 4,612 |
| Forrest | 35,790 | 7,147 | 42,937 |
| Franklin | 36,757 | 9,065 | 45,822 |
| George | 18,680 | 2,034 | 20,714 |
| Greene | 38,085 | 4,897 | 42,982 |
| Grenada | 6,207 | 1,506 | 7,713 |
| Hancock | 36,962 | 100 | 37,062 |
| Harrison | 28,475 | 2,245 | 30,720 |
| Hinds | 37,508 | 6,009 | 43,517 |
| Holmes | 26,139 | 3,558 | 29,697 |
| Humphreys | 1,258 | 1,420 | 2,678 |
| Issaquena | 3,130 | 4,442 | 7,572 |
| Itawamba | ... | ... | ... |
| Jackson | 52,064 | ... | 52,064 |
| Jasper | 61,807 | 11,960 | 73,767 |
| Jefferson | 21,224 | 5,733 | 26,957 |
| Jefferson Davis | 19,438 | 4,801 | 24,239 |
| Jones | 59,522 | 13,262 | 72,784 |
| Kemper | 13,828 | 986 | 14,814 |
| Lafayette | 460 | ... | 460 |
| Lamar | 12,553 | 2,805 | 15,358 |
| Lauderdale | 42,991 | 1,702 | 44,693 |
| Lawrence | 55,788 | 12,536 | 68,324 |
| Leake | 34,302 | 3,282 | 37,584 |
| Lee | ... | ... | ... |
| Leflore | 818 | 840 | 1,658 |

Table 10.--Mississippi (cont.)

| County | Pine | Hardwood | Total |
|---|---|---|---|
| | ---- | Standard cords | ----- |
| Lincoln | 37,551 | 10,617 | 48,168 |
| Lowndes | 2,143 | 106 | 2,249 |
| Madison | 11,691 | 1,400 | 13,091 |
| Marion | 46,354 | 8,646 | 55,000 |
| Marshall | 400 | ... | 400 |
| Monroe | 900 | 200 | 1,100 |
| Montgomery | 6,821 | 1,335 | 8,156 |
| Neshoba | 12,648 | 1,827 | 14,475 |
| Newton | 33,702 | 7,913 | 41,615 |
| Noxubee | 8,634 | 1,591 | 10,225 |
| Oktibbeha | 8,625 | 1,300 | 9,925 |
| Panola | ... | 100 | 100 |
| Pearl River | 19,738 | 3,147 | 22,885 |
| Perry | 21,902 | 4,296 | 26,198 |
| Pike | 27,858 | 7,526 | 35,384 |
| Pontotoc | 400 | 100 | 500 |
| Prentiss | ... | ... | ... |
| Quitman | 78 | 26 | 104 |
| Rankin | 47,972 | 6,574 | 54,546 |
| Scott | 59,215 | 6,765 | 65,980 |
| Sharkey | ... | 33 | 33 |
| Simpson | 42,528 | 7,324 | 49,852 |
| Smith | 6,025 | 1,422 | 7,447 |
| Stone | 24,465 | 1,229 | 25,694 |
| Sunflower | ... | 546 | 546 |
| Tallahatchie | 110 | 786 | 896 |
| Tate | ... | ... | ... |
| Tippah | ... | ... | ... |
| Tishomingo | 3,060 | 3,400 | 6,460 |
| Tunica | ... | 4,457 | 4,457 |
| Union | ... | ... | ... |
| Walthall | 22,719 | 4,782 | 27,501 |
| Warren | 510 | 3,076 | 3,586 |
| Washington | ... | 1,997 | 1,997 |
| Wayne | 31,192 | 5,443 | 36,635 |
| Webster | 2,684 | 328 | 3,012 |
| Wilkinson | 16,752 | 4,935 | 21,687 |
| Winston | 15,212 | 2,417 | 17,629 |
| Yalobusha | 1,031 | 200 | 1,231 |
| Yazoo | 400 | 300 | 700 |
| Total | 1,388,743 | 277,120 | 1,665,863 |

Table 11.--Pulpwood production in North Carolina, 1950

| County | Pine | Hardwood | Chestnut | Total |
|---|---|---|---|---|
| | - - - - - - - Standard cords - - - - - - - | | | |
| Alamance | 215 | ... | ... | 215 |
| Alexander | 787 | 33 | ... | 820 |
| Alleghany | ... | ... | ... | ... |
| Anson | 5,543 | 2,172 | ... | 7,715 |
| Ashe | ... | 1,186 | ... | 1,186 |
| Avery | ... | 2,224 | 1,364 | 3,588 |
| Beaufort | 19,418 | 230 | ... | 19,648 |
| Bertie | 12,255 | 565 | ... | 12,820 |
| Bladen | 43,598 | 1,300 | ... | 44,898 |
| Brunswick | 40,254 | 2,900 | ... | 43,154 |
| Buncombe | 20,806 | 10,291 | 3,121 | 34,218 |
| Burke | 23,653 | 4,905 | ... | 28,558 |
| Cabarrus | 107 | 218 | ... | 325 |
| Caldwell | 4,420 | 302 | 17 | 4,739 |
| Camden | 27 | 33 | ... | 60 |
| Carteret | 26,544 | 300 | ... | 26,844 |
| Caswell | ... | ... | ... | ... |
| Catawba | 2,608 | ... | ... | 2,608 |
| Chatham | 9,932 | 112 | ... | 10,044 |
| Cherokee | 16,835 | 18,521 | 3,003 | 38,359 |
| Chowan | 81 | ... | ... | 81 |
| Clay | 3,191 | 3,387 | 24,029 | 30,607 |
| Cleveland | 4,995 | 690 | ... | 5,685 |
| Columbus | 20,642 | 1,000 | ... | 21,642 |
| Craven | 17,659 | 2,079 | ... | 19,738 |
| Cumberland | 5,944 | ... | ... | 5,944 |
| Currituck | ... | ... | ... | ... |
| Dare | ... | ... | ... | ... |
| Davidson | 120 | ... | ... | 120 |
| Davie | 496 | ... | ... | 496 |
| Duplin | 12,370 | 138 | ... | 12,508 |
| Durham | 8,069 | 129 | ... | 8,198 |
| Edgecombe | 323 | ... | ... | 323 |
| Forsyth | ... | ... | ... | ... |
| Franklin | 21,463 | 236 | ... | 21,699 |
| Gaston | 5,291 | 16 | ... | 5,307 |
| Gates | 19,150 | 1,476 | ... | 20,626 |
| Graham | 1,359 | 1,409 | 1,947 | 4,715 |
| Granville | 3,344 | ... | ... | 3,344 |
| Greene | 835 | ... | ... | 835 |
| Guilford | 135 | ... | ... | 135 |
| Halifax | 26,895 | ... | ... | 26,895 |
| Harnett | 3,724 | 300 | ... | 4,024 |
| Haywood | 3,350 | 10,650 | 5,200 | 19,200 |
| Henderson | 12,831 | 10,109 | 18 | 22,958 |
| Hertford | 11,421 | 1,592 | ... | 13,013 |
| Hoke | 10,801 | 100 | ... | 10,901 |
| Hyde | 108 | ... | ... | 108 |
| Iredell | 2,548 | 16 | ... | 2,564 |
| Jackson | 5,024 | 17,194 | 23,496 | 45,714 |

Table 11.--North Carolina (cont.)

| County | Pine | Hardwood | Chestnut | Total |
|---|---|---|---|---|
| | - - - - - - - | Standard cords | - - - - - - - | |
| Jones | 3,235 | ... | ... | 3,235 |
| Lee | 2,571 | ... | ... | 2,571 |
| Lenoir | 8,422 | ... | ... | 8,422 |
| Lincoln | 745 | 100 | ... | 845 |
| McDowell | 5,971 | 5,490 | 1,328 | 12,789 |
| Macon | 4,194 | 2,230 | 5,157 | 11,581 |
| Madison | 4,885 | 4,604 | 5,806 | 15,295 |
| Martin | 1,831 | 850 | ... | 2,681 |
| Mecklenburg | 16,474 | 715 | ... | 17,189 |
| Mitchell | 408 | 5,285 | 5,954 | 11,647 |
| Montgomery | 6,186 | 200 | ... | 6,386 |
| Moore | 13,824 | 100 | ... | 13,924 |
| Nash | 1,735 | 14 | ... | 1,749 |
| New Hanover | 7,973 | 600 | ... | 8,573 |
| Northampton | 34,311 | 526 | ... | 34,837 |
| Onslow | 44,674 | 3,296 | ... | 47,970 |
| Orange | 1,025 | ... | ... | 1,025 |
| Pamlico | 2,074 | ... | ... | 2,074 |
| Pasquotank | ... | ... | ... | ... |
| Pender | 32,497 | 2,100 | ... | 34,597 |
| Perquimans | ... | ... | ... | ... |
| Person | 380 | ... | ... | 380 |
| Pitt | 3,555 | ... | ... | 3,555 |
| Polk | 789 | 511 | ... | 1,300 |
| Randolph | ... | ... | ... | ... |
| Richmond | 5,725 | 100 | ... | 5,825 |
| Robeson | 12,411 | 300 | ... | 12,711 |
| Rockingham | 360 | ... | ... | 360 |
| Rowan | 555 | 13 | ... | 568 |
| Rutherford | 8,207 | 2,543 | ... | 10,750 |
| Sampson | 11,703 | ... | ... | 11,703 |
| Scotland | 4,570 | ... | ... | 4,570 |
| Stanly | 2,912 | 100 | ... | 3,012 |
| Stokes | ... | ... | ... | ... |
| Surry | 1,010 | ... | ... | 1,010 |
| Swain | 7,994 | 7,274 | 5,790 | 21,058 |
| Transylvania | 2,732 | 5,811 | 4,880 | 13,423 |
| Tyrrell | ... | ... | ... | ... |
| Union | 4,589 | 1,100 | ... | 5,689 |
| Vance | 14,751 | 100 | ... | 14,851 |
| Wake | 24,999 | 512 | ... | 25,511 |
| Warren | 26,201 | 1,392 | ... | 27,593 |
| Washington | 1,212 | ... | ... | 1,212 |
| Watauga | ... | ... | ... | ... |
| Wayne | 8,557 | 102 | ... | 8,659 |
| Wilkes | 17,397 | 316 | ... | 17,713 |
| Wilson | 231 | ... | ... | 231 |
| Yadkin | ... | ... | ... | ... |
| Yancey | ... | 364 | ... | 364 |
| Total | 790,434 | 142,461 | 91,110 | 1,024,005 |

Table 12.--Pulpwood production in South Carolina, 1950

| County | Pine | Hardwood | Total |
|---|---|---|---|
| | - - - - - Standard cords | - - - - - | |
| Abbeville | 3,865 | 400 | 4,265 |
| Aiken | 20,216 | 412 | 20,628 |
| Allendale | 17,635 | 4,669 | 22,304 |
| Anderson | 837 | ... | 837 |
| Bamberg | 9,947 | 3,916 | 13,863 |
| Barnwell | 6,330 | 1,601 | 7,931 |
| Beaufort | 21,392 | 100 | 21,492 |
| Berkeley | 75,807 | 4,846 | 80,653 |
| Calhoun | 5,761 | 1,300 | 7,061 |
| Charleston | 41,885 | 1,300 | 43,185 |
| Cherokee | 1,365 | 32 | 1,397 |
| Chester | 31,204 | 1,877 | 33,081 |
| Chesterfield | 12,079 | 11,536 | 23,615 |
| Clarendon | 11,731 | 4,063 | 15,794 |
| Colleton | 32,371 | 4,900 | 37,271 |
| Darlington | 14,146 | 4,287 | 18,433 |
| Dillon | 7,931 | 300 | 8,231 |
| Dorchester | 43,231 | 1,850 | 45,081 |
| Edgefield | 26,391 | 260 | 26,651 |
| Fairfield | 90,388 | 8,867 | 99,255 |
| Florence | 10,955 | 614 | 11,569 |
| Georgetown | 95,817 | 13,400 | 109,217 |
| Greenville | 8,604 | ... | 8,604 |
| Greenwood | 21,735 | 345 | 22,080 |
| Hampton | 39,532 | 6,030 | 45,562 |
| Horry | 73,713 | 5,091 | 78,804 |
| Jasper | 29,502 | 454 | 29,956 |
| Kershaw | 30,882 | 5,836 | 36,718 |
| Lancaster | 11,059 | 631 | 11,690 |
| Laurens | 15,537 | 300 | 15,837 |
| Lee | 7,382 | 1,698 | 9,080 |
| Lexington | 15,551 | 1,525 | 17,076 |
| McCormick | 28,401 | 547 | 28,948 |
| Marion | 5,019 | 1,020 | 6,039 |
| Marlboro | 3,121 | 600 | 3,721 |
| Newberry | 46,458 | 1,581 | 48,039 |
| Oconee | 1,920 | 29 | 1,949 |
| Orangeburg | 15,152 | 4,048 | 19,200 |
| Pickens | 516 | ... | 516 |
| Richland | 35,042 | 3,528 | 38,570 |
| Saluda | 4,268 | 161 | 4,429 |
| Spartanburg | 12,075 | 735 | 12,810 |
| Sumter | 13,072 | 1,845 | 14,917 |
| Union | 31,406 | 1,111 | 32,517 |
| Williamsburg | 32,084 | 5,481 | 37,565 |
| York | 5,291 | 681 | 5,972 |
| Total | 1,068,606 | 113,807 | 1,182,413 |

Table 13.--Pulpwood production in Tennessee, 1950

| County | Pine | Hardwood | Chestnut | Total |
|---|---|---|---|---|
| | | ------ -Standard cords ----- | | |
| Anderson | 394 | 516 | | 910 |
| Bedford | ... | ... | 638 | 638 |
| Benton | ... | 983 | ... | 983 |
| Bledsoe | ... | ... | ... | ... |
| Blount | 4,648 | ... | ... | 4,648 |
| Bradley | 4,201 | 94 | ... | 4,295 |
| Campbell | ... | ... | 156 | 156 |
| Cannon | ... | ... | ... | ... |
| Carroll | ... | 781 | ... | 781 |
| Carter | ... | 984 | 41 | 1,025 |
| Cheatham | ... | ... | ... | ... |
| Chester | ... | ... | ... | ... |
| Claiborne | 210 | 981 | 329 | 1,520 |
| Clay | ... | ... | ... | ... |
| Cocke | 6,199 | 4,575 | 6,008 | 16,782 |
| Coffee | ... | 3,088 | 3,338 | 6,426 |
| Crockett | ... | ... | ... | ... |
| Cumberland | ... | 11,635 | 100 | 11,735 |
| Davidson | ... | ... | ... | ... |
| Decatur | ... | ... | ... | ... |
| De Kalb | ... | ... | ... | ... |
| Dickson | ... | ... | 19 | 19 |
| Dyer | ... | ... | ... | ... |
| Fayette | ... | ... | ... | ... |
| Fentress | ... | 2,527 | 754 | 3,281 |
| Franklin | ... | 1,075 | ... | 1,075 |
| Gibson | ... | ... | ... | ... |
| Giles | ... | ... | 19 | 19 |
| Grainger | ... | 23 | 33 | 56 |
| Greene | 14 | ... | 62 | 76 |
| Grundy | ... | 534 | ... | 534 |
| Hamblen | ... | ... | ... | ... |
| Hamilton | ... | ... | ... | ... |
| Hancock | ... | 295 | 50 | 345 |
| Hardeman | ... | 193 | ... | 193 |
| Hardin | ... | ... | ... | ... |
| Hawkins | 109 | 557 | 332 | 998 |
| Haywood | ... | ... | ... | ... |
| Henderson | ... | 622 | ... | 622 |
| Henry | ... | 572 | ... | 572 |
| Hickman | ... | 794 | 956 | 1,750 |
| Houston | ... | ... | 263 | 263 |
| Humphreys | ... | ... | 506 | 506 |
| Jackson | ... | ... | ... | ... |
| Jefferson | 39 | ... | ... | 39 |
| Johnson | ... | ... | 409 | 409 |
| Knox | 105 | 1,155 | 106 | 1,366 |
| Lake | ... | ... | ... | ... |
| Lauderdale | ... | ... | ... | ... |
| Lawrence | ... | 1,698 | 2,081 | 3,779 |
| Lewis | ... | 327 | 506 | 833 |

Table 13.--Tennessee (cont.)

| County | Pine | Hardwood | Chestnut | Total |
|---|---|---|---|---|
| | | - - - - - - - Standard cords - - - - - - - | | |
| Lincoln | ... | ... | 319 | 319 |
| Loudon | ... | ... | 36 | 36 |
| McMinn | 14,596 | 3,288 | 56 | 17,940 |
| McNairy | ... | ... | ... | ... |
| Macon | ... | ... | 150 | 150 |
| Madison | ... | 287 | ... | 287 |
| Marion | ... | 15 | ... | 15 |
| Marshall | ... | ... | ... | ... |
| Maury | ... | ... | ... | ... |
| Meigs | ... | ... | ... | ... |
| Monroe | 10,772 | 1,392 | ... | 12,164 |
| Montgomery | ... | ... | ... | ... |
| Moore | ... | ... | ... | ... |
| Morgan | ... | 497 | ... | 497 |
| Obion | ... | ... | ... | ... |
| Overton | ... | 684 | 16 | 700 |
| Perry | ... | ... | ... | ... |
| Pickett | ... | ... | ... | ... |
| Polk | 3,415 | 2,027 | ... | 5,442 |
| Putnam | ... | 5,394 | 3,096 | 8,490 |
| Rhea | 339 | 473 | ... | 812 |
| Roane | 579 | 4,377 | 4,874 | 9,830 |
| Robertson | ... | ... | 56 | 56 |
| Rutherford | ... | ... | 131 | 131 |
| Scott | ... | 693 | ... | 693 |
| Sequatchie | ... | ... | ... | ... |
| Sevier | ... | 614 | 156 | 770 |
| Shelby | ... | 5,000 | ... | 5,000 |
| Smith | ... | ... | ... | ... |
| Stewart | ... | ... | 19 | 19 |
| Sullivan | ... | 867 | 67 | 934 |
| Sumner | ... | ... | 1,144 | 1,144 |
| Tipton | ... | ... | ... | ... |
| Trousdale | ... | ... | ... | ... |
| Unicoi | 100 | 446 | 268 | 814 |
| Union | 121 | 2,778 | 594 | 3,493 |
| Van Buren | ... | ... | ... | ... |
| Warren | ... | 1,986 | 1,237 | 3,223 |
| Washington | ... | 494 | 717 | 1,211 |
| Wayne | ... | ... | ... | ... |
| Weakley | ... | ... | ... | ... |
| White | ... | 1,373 | 1,781 | 3,154 |
| Williamson | ... | ... | ... | ... |
| Wilson | ... | ... | ... | ... |
| Total | 4,841 | 66,694 | 31,423 | 143,958 |

Table 14.--Pulpwood production in Texas, 1950

| County[1] | Pine | Hardwood | Total |
|---|---|---|---|
| | - - - - - | Standard cords - - - - - | |
| Anderson | 13,470 | 1,699 | 15,169 |
| Angelina | 40,820 | ... | 40,820 |
| Bowie | 14,794 | ... | 14,794 |
| Camp | 5,691 | ... | 5,691 |
| Cass | 24,037 | 100 | 24,137 |
| Cherokee | 36,931 | 3,265 | 40,196 |
| Franklin | 100 | ... | 100 |
| Gregg | 9,360 | ... | 9,360 |
| Grimes | 11,350 | 303 | 11,653 |
| Hardin | 16,672 | 1,863 | 18,535 |
| Harris | 30,674 | 452 | 31,126 |
| Harrison | 27,120 | ... | 27,120 |
| Henderson | 1,574 | ... | 1,574 |
| Houston | 73,864 | 1,262 | 75,126 |
| Jasper | 37,900 | 5,707 | 43,607 |
| Jefferson | 2,290 | 280 | 2,570 |
| Liberty | 27,421 | 928 | 28,349 |
| Marion | 21,322 | 100 | 21,422 |
| Montgomery | 60,030 | 6,047 | 66,077 |
| Morris | 10,834 | ... | 10,834 |
| Nacogdoches | 36,284 | 1,644 | 37,928 |
| Newton | 21,392 | 3,904 | 25,296 |
| Orange | 12,997 | 149 | 13,146 |
| Panola | 25,717 | 468 | 26,185 |
| Polk | 31,006 | 4,645 | 35,651 |
| Red River | 7,000 | ... | 7,000 |
| Rusk | 14,147 | 345 | 14,492 |
| Sabine | 25,569 | ... | 25,569 |
| San Augustine | 53,299 | ... | 53,299 |
| San Jacinto | 16,020 | 998 | 17,018 |
| Shelby | 37,716 | 352 | 38,068 |
| Smith | 6,628 | 575 | 7,203 |
| Titus | 3,351 | ... | 3,351 |
| Trinity | 39,864 | ... | 39,864 |
| Tyler | 17,006 | ... | 17,006 |
| Upshur | 21,689 | 544 | 22,233 |
| Walker | 27,562 | 10,259 | 37,821 |
| Waller | 1,534 | ... | 1,534 |
| Wood | 11,380 | ... | 11,380 |
| Total | 876,415 | 45,889 | 922,304 |

[1] Counties with no pulpwood production are omitted.

Table 15.--Pulpwood production in Virginia, 1950

| County | Pine | Hardwood | Chestnut | Total |
|---|---|---|---|---|
| | - - - - - | Standard cords | - - - - - | |
| Accomac | 1,578 | ... | ... | 1,578 |
| Albemarle | 17,683 | 6,212 | ... | 23,895 |
| Alleghany | 4,328 | 30,194 | ... | 34,522 |
| Amelia | 41,419 | 4,959 | ... | 46,378 |
| Amherst | 13,135 | 26,740 | ... | 39,875 |
| Appomattox | 5,904 | 4,136 | ... | 10,040 |
| Arlington | ... | ... | ... | ... |
| Augusta | 1,138 | 1,545 | ... | 2,683 |
| Bath | 2,407 | 20,291 | ... | 22,698 |
| Bedford | 19,447 | 12,316 | ... | 31,763 |
| Bland | ... | ... | ... | ... |
| Botetourt | 6,782 | 10,330 | ... | 17,112 |
| Brunswick | 55,568 | 3,766 | ... | 59,334 |
| Buchanan | ... | ... | ... | ... |
| Buckingham | 36,110 | 39,810 | ... | 75,920 |
| Campbell | 16,097 | 2,874 | ... | 18,971 |
| Caroline | 1,289 | 106 | ... | 1,395 |
| Carroll | ... | 114 | ... | 114 |
| Charles City | 20,267 | 62 | ... | 20,329 |
| Charlotte | 22,677 | 877 | ... | 23,554 |
| Chesterfield | 7,704 | 215 | ... | 7,919 |
| Clarke | 78 | ... | ... | 78 |
| Craig | 3,031 | 9,879 | ... | 12,910 |
| Culpeper | 6,314 | 2,459 | ... | 8,773 |
| Cumberland | 26,000 | 3,791 | ... | 29,791 |
| Dickenson | ... | ... | ... | ... |
| Dinwiddie | 21,166 | 274 | ... | 21,440 |
| Elizabeth City | ... | ... | ... | ... |
| Essex | 7,528 | ... | ... | 7,528 |
| Fairfax | 227 | ... | ... | 227 |
| Fauquier | 467 | ... | ... | 467 |
| Floyd | ... | 341 | ... | 341 |
| Fluvanna | 14,056 | 7,000 | ... | 21,056 |
| Franklin | 7,172 | 1,358 | ... | 8,530 |
| Frederick | 4,453 | 322 | ... | 4,775 |
| Giles | 172 | 185 | ... | 357 |
| Gloucester | 14,427 | ... | ... | 14,427 |
| Goochland | 8,676 | 1,886 | ... | 10,562 |
| Grayson | ... | 385 | ... | 385 |
| Greene | 282 | 16 | ... | 298 |
| Greensville | 33,923 | 672 | ... | 34,595 |
| Halifax | 3,411 | 51 | ... | 3,462 |
| Hanover | 1,311 | 334 | ... | 1,645 |
| Henrico | 4,631 | 61 | ... | 4,692 |
| Henry | 4,859 | 16 | ... | 4,875 |
| Highland | 371 | 3,583 | ... | 3,954 |
| Isle of Wight | 10,406 | 625 | ... | 11,031 |
| James City | 5,785 | ... | ... | 5,785 |
| King and Queen | 25,386 | ... | ... | 25,386 |
| King George | 166 | ... | ... | 166 |
| King William | 23,745 | ... | ... | 23,745 |

Table 15.--Virginia (cont.)

| County | Pine | Hardwood | Chestnut | Total |
|---|---|---|---|---|
| | - - - - - - Standard cords - - - - - - - | | | |
| Lancaster | 5,459 | ... | ... | 5,459 |
| Lee | ... | 4,379 | 841 | 5,220 |
| Loudoun | 18 | ... | ... | 18 |
| Louisa | 3,577 | 1,510 | ... | 5,087 |
| Lunenburg | 9,391 | 87 | ... | 9,478 |
| Madison | 477 | 13 | ... | 490 |
| Mathews | 2,352 | ... | ... | 2,352 |
| Mecklenburg | 13,130 | 399 | ... | 13,529 |
| Middlesex | 9,420 | ... | ... | 9,420 |
| Montgomery | 3,796 | 1,654 | 9,462 | 14,912 |
| Nansemond | 13,055 | 1,137 | ... | 14,192 |
| Nelson | 14,110 | 11,807 | ... | 25,917 |
| New Kent | 22,526 | 1,016 | ... | 23,542 |
| Norfolk | 743 | ... | ... | 743 |
| Northampton | 371 | ... | ... | 371 |
| Northumberland | 2,406 | ... | ... | 2,406 |
| Nottoway | 13,703 | 1,001 | ... | 14,704 |
| Orange | 3,026 | 1,132 | ... | 4,158 |
| Page | 552 | 11 | ... | 563 |
| Patrick | ... | ... | ... | ... |
| Pittsylvania | 15,865 | 1,040 | ... | 16,905 |
| Powhatan | 2,477 | 1,885 | ... | 4,362 |
| Prince Edward | 27,652 | 3,316 | ... | 30,968 |
| Prince George | 13,405 | 222 | ... | 13,627 |
| Prince William | 217 | ... | ... | 217 |
| Princess Anne | 49 | ... | ... | 49 |
| Pulaski | 208 | 30 | ... | 238 |
| Rappahannock | 226 | ... | ... | 226 |
| Richmond | 11,032 | ... | ... | 11,032 |
| Roanoke | 496 | 15 | ... | 511 |
| Rockbridge | 4,863 | 12,373 | ... | 17,236 |
| Rockingham | 42 | ... | ... | 42 |
| Russell | ... | 288 | ... | 288 |
| Scott | ... | 1,781 | 2,871 | 4,652 |
| Shenandoah | 711 | 64 | ... | 775 |
| Smyth | 16 | 192 | ... | 208 |
| Southampton | 26,532 | 1,684 | ... | 28,216 |
| Spotsylvania | 2,201 | 549 | ... | 2,750 |
| Stafford | 1,212 | 339 | ... | 1,551 |
| Surry | 11,361 | 43 | ... | 11,404 |
| Sussex | 18,991 | 669 | ... | 19,660 |
| Tazewell | ... | ... | ... | ... |
| Warren | 1,370 | 32 | ... | 1,402 |
| Warwick | 6,700 | 126 | ... | 6,826 |
| Washington | ... | 2,851 | 3,740 | 6,591 |
| Westmoreland | 2,449 | ... | ... | 2,449 |
| Wise | ... | 145 | 2,543 | 2,688 |
| Wythe | 169 | 4 | ... | 173 |
| York | 7,179 | ... | ... | 7,179 |
| Total | 775,111 | 249,579 | 19,457 | 1,044,147 |

Table 16.--Companies drawing pulpwood from the South, 1950

| State | Name of company | Plant location | Pulp capacity 24 hrs.[1/] 1,000 lbs. |
|---|---|---|---|
| ALABAMA | Coosa River Newsprint Co. | Coosa Pines | 1,028 |
| | Gulf States Paper Corp. | Tuscaloosa | 800 |
| | Hollingsworth & Whitney Co. | Mobile | 450 |
| | International Paper Co. | Mobile | 1,070 |
| | National Gypsum Co. | Mobile | 300 |
| | Ruberoid Co. | Mobile | 2/ |
| | Stone-Mann Paper Co. | Crichton | 90 |
| ARKANSAS | Crossett Paper Mills | Crossett | 620 |
| | International Paper Co. | Camden | 1,000 |
| FLORIDA | Armstrong Cork Co. | Pensacola | 2/ |
| | Container Corp. of America | Fernandina | 400 |
| | Hudson Pulp & Paper Corp. | Palatka | 400 |
| | International Paper Co. | Panama City | 2,430 |
| | National Container Corp. | Jacksonville | 750 |
| | Rayonier, Inc. | Fernandina | 550 |
| | St. Joe Paper Co. | Port St. Joe | 800 |
| | St. Regis Paper Co. | Pensacola | 950 |
| GEORGIA | Armstrong Cork Co. | Macon | 400 |
| | Brunswick Pulp & Paper Co. | Brunswick | 600 |
| | Certain-teed Products Corp. | Savannah | 2/ |
| | Macon Kraft Co. | Macon | 1,200 |
| | St. Marys Kraft Corp. | St. Marys | 1,000 |
| | Southern Paperboard Corp. | Savannah | 1,000 |
| | Union Bag & Paper Corp. | Savannah | 2,320 |
| LOUISIANA | Bird & Son | Shreveport | 2/ |
| | The Brown Paper Mill Co., Inc. | West Monroe | 1,100 |
| | Calcasieu Paper Co., Inc. | Elizabeth | 400 |
| | Flintkote Co. | New Orleans | 90 |
| | Gaylord Container Corp. | Bogalusa | 1,400 |
| | International Paper Co. | Bastrop | 1,961 |
| | International Paper Co. | Spring Hill | 2,530 |
| | Southern Advance Bag & Paper Co. | Hodge | 600 |
| MARYLAND | West Virginia Pulp & Paper Co. | Luke | 330 |

Table 16.--Companies drawing pulpwood from the South, 1950 (cont.)

| State | Name of company | Plant location | Pulp capacity 24 hrs.[1] |
|---|---|---|---|
| | | | 1000 lbs. |
| MISSISSIPPI | Flintkote Co. | Meridian | 300 |
| | International Paper Co. | Moss Point | 514 |
| | International Paper Co. | Natchez | 600 |
| | Masonite Corp. | Laurel | 1,800 |
| | Johns-Manville Products Corp. | Natchez | 600 |
| | United States Gypsum Co. | Greenville | 360 |
| NORTH CAROLINA | Champion Paper & Fibre Co. | Canton | 1,370 |
| | Halifax Paper Co., Inc. | Roanoke Rapids | 400 |
| | Mead Corp. | Sylva | 245 |
| | North Carolina Pulp Co. | Plymouth | 1,400 |
| OHIO | Mead Corp. | Chillicothe | 250 |
| PENNSYLVANIA | P. H. Glatfelter Co. | Spring Grove | 140 |
| SOUTH CAROLINA | International Paper Co. | Georgetown | 3,085 |
| | Sonoco Products Co. | Hartsville | 160 |
| | West Virginia Pulp & Paper Co. | Charleston | 1,400 |
| TENNESSEE | Mead Corp. | Harriman | 180 |
| | Mead Corp. | Kingsport | 280 |
| | Mead Corp. | Nashville | 120 |
| | Southern Extract Co. | Knoxville | 135 |
| TEXAS | Champion Paper & Fibre Co. | Pasadena | 980 |
| | Southland Paper Mills, Inc. | Lufkin | 960 |
| VIRGINIA | Camp Manufacturing Co., Inc. | Franklin | 660 |
| | Chesapeake Corp. of Virginia | West Point | 1,000 |
| | Columbian Paper Co. | Bristol | 170 |
| | Continental Can Co., Inc. | Hopewell | 700 |
| | Mead Corp. | Lynchburg | 250 |
| | National Container Corp. of Virginia | Big Island | 300 |
| | Piedmont Paper Products Co. | Buena Vista | 50 |
| | Schieren, Chas. A. Co. | Bristol | 16 |
| | Southern Johns-Manville Products Corp. | Jarratt | 400 |
| | West Virginia Pulp & Paper Co. | Covington | 1,000 |

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1/ Southern Pulp and Paper Manufacturer, Vol. 13, No. 10. Oct. 1, 1950 and Lockwood's Directory of the Paper and Allied Trades, 1950.

2/ Used some wood but pulping capacity not available.

Table 17.--Certificates of necessity issued under defense accelerated tax amortization program (revised) 1/

| State | Name of company | Plant location | Additional pulp capacity 24 hours |
|---|---|---|---|
| | | | 1,000 lbs. |
| ALABAMA | Hollingsworth & Whitney Co. | Mobile | 360 |
| | International Paper Co. | Mobile | 800 |
| ARKANSAS | White Star Paper Co. | Prescott | (2/) |
| FLORIDA | Buckeye Cotton Oil Co. | Perry | (2/) |
| | Rayonier, Inc. | Fernandina | 140 |
| | St. Joe Paper Co. | Port St. Joe | 1,400 |
| | St. Regis Paper Co. | Eastport | 600 |
| | St. Regis Paper Co. | Pensacola | 600 |
| GEORGIA | Mead Corporation | Rome | 1,400 |
| | National Container Corp. | Valdosta | 1,000 |
| | St. Marys Kraft Corp. | St. Marys | (2/) |
| | Union Bag & Paper Corp. | Savannah | 800 |
| LOUISIANA | The Brown Paper Mill Co., Inc. | West Monroe | 250 |
| | Gaylord Container Corp. | Bogalusa | 430 |
| MISSISSIPPI | International Paper Co. | Moss Point | 600 |
| | International Paper Co. | Natchez | 600 |
| NORTH CAROLINA | Champion Paper & Fibre Co. | Canton | 240 |
| | Halifax Paper Co., Inc. | Roanoke Rapids | 200 |
| | North Carolina Pulp Co. | Plymouth | 200 |
| | Reigel Paper Co. | Columbus County | 400 |
| TENNESSEE | Mead Corporation | Kingsport | 200 |
| TEXAS | Champion Paper & Fibre Co. | Pasadena | 60 |
| VIRGINIA | Camp Manufacturing Co. | Franklin | (2/) |
| | Chesapeake Corp. of Virginia | West Point | (2/) |
| | Continental Can Co., Inc. | Hopewell | 200 |
| UNSPECIFIED | Olin Industries | (2/) | 400 |

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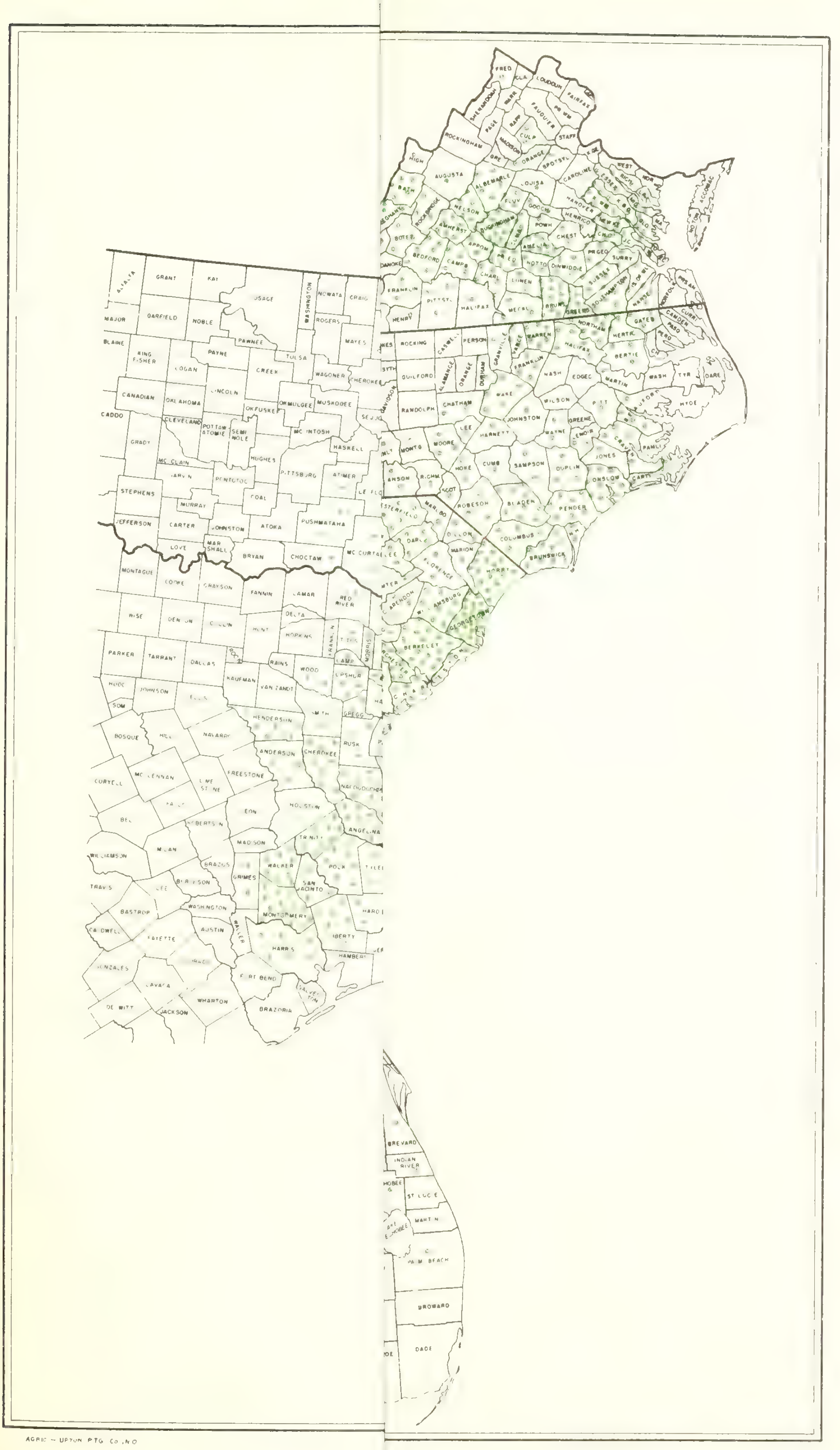
1/ As reported in trade journals or by companies concerned.

2/ Not available.

Table 18.--Other construction announced

| | | | |
|---|---|---|---|
| TEXAS | Evadale Manufacturing Co. | Evadale | 570 |



AGRIC — UPTON PTG CO.,N.O

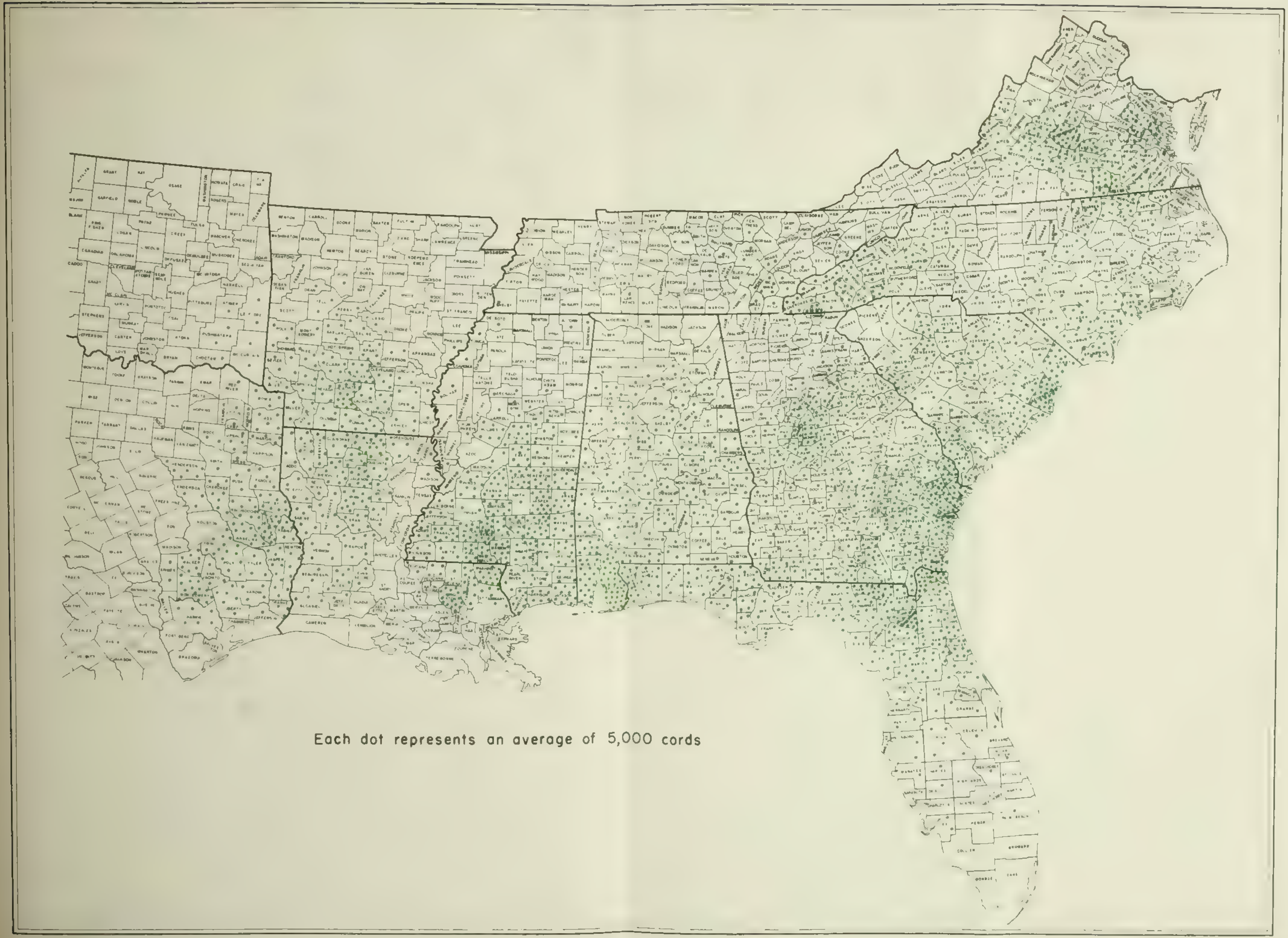


Figure 3 — Pulpwood production by county in the South, 1950

FOREST SURVEY RELEASE 70

.40/5: 70

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# FOREST STATISTICS FOR
# TENNESSEE

A REPORT OF THE SOUTHERN FOREST SURVEY
Philip R. Wheeler, In Charge

SOUTHERN FOREST EXPERIMENT STATION
Harold L. Mitchell, Director
New Orleans, La.

FOREST SERVICE, U. S. DEPT. OF AGRICULTURE
June 1952

# THE SOUTHERN FOREST SURVEY

The Southern Forest Survey, an activity of the Southern Forest Experiment Station, covers the seven States of the Station's territory--Alabama, Arkansas, Louisiana Mississippi, Oklahoma, Tennessee, and Texas. This survey is a part of the nation-wide Forest Survey authorized by the McSweeney-McNary Forest Research Act of 1928. Its five-fold purpose is (1) to take inventory of the supply of standing timber and other forest products; (2) to ascertain the rate at which this supply is being increased through growth; (3) to determine the rate at which this supply is being diminished through industrial and local use, and by fire, insects, disease, and other agencies; (4) to estimate the present requirements and the probable future trend in the requirements for timber and other forest products; and (5) to correlate these findings with existing and anticipated economic conditions, in order that policies may be formulated for the effective use of lands suitable for forest production.

The Forest Survey of Tennessee is the first intensive inventory to be made of the State's forest land and timber resources. An earlier estimate was made by the Forest Service in its 1945 Reappraisal of the forest situation. Because of complex differences in mensurational standards and procedures and the greater sampling intensity of the Forest Survey, changes in forest conditions in Tennessee cannot be measured by comparing Survey figures with those of the Reappraisal. A valid comparison will be possible only when an intensive resurvey is made in the future.

# FOREST STATISTICS FOR TENNESSEE

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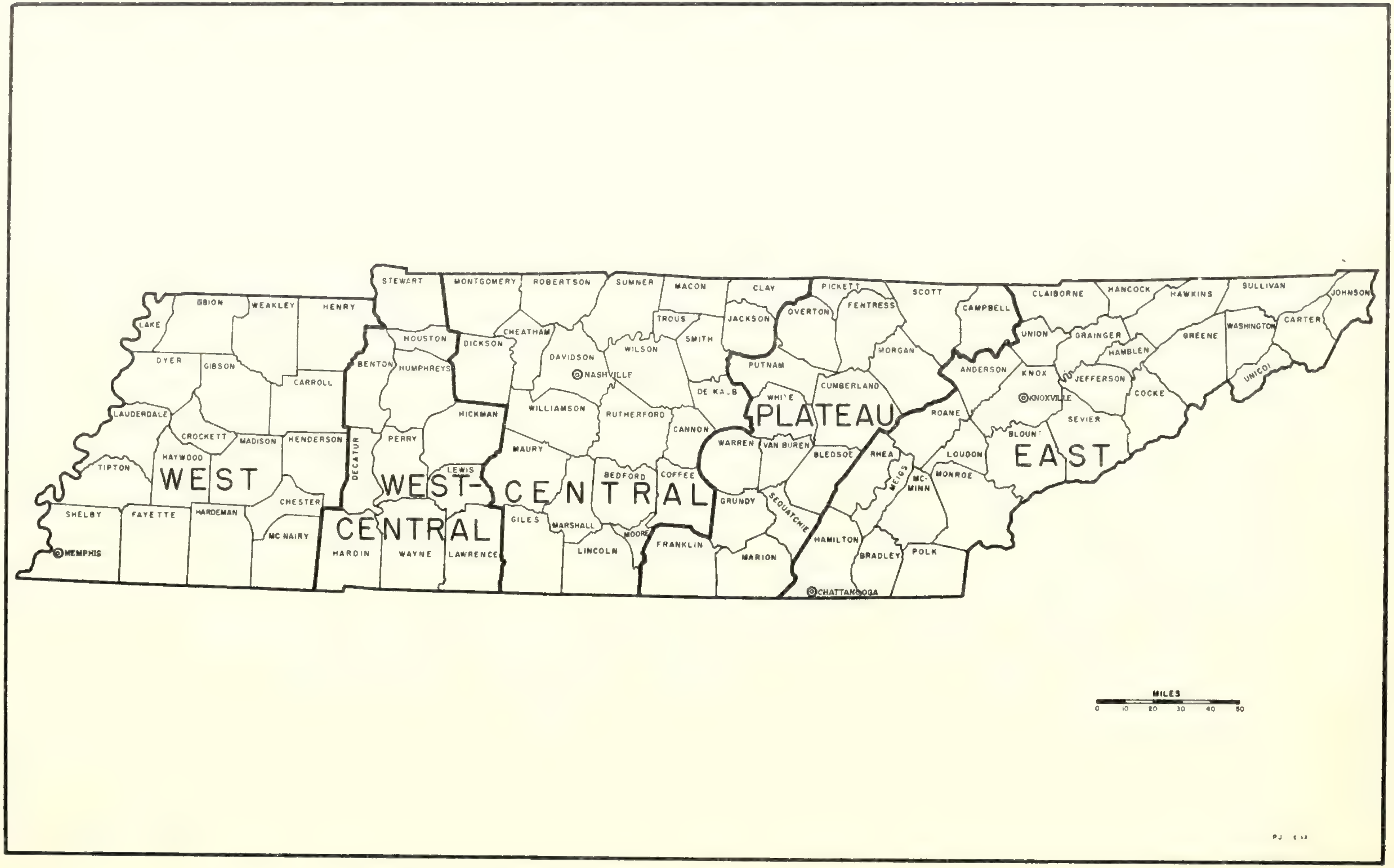

Figure 1.--Forest Survey regions in Tennessee.

# FOREST STATISTICS FOR TENNESSEE

This report of forest acreage, timber volume, growth, and drain[1] for Tennessee is based on data collected by the Southern Forest Survey between July 1948 and November 1950.[2] A more comprehensive analysis of Tennessee's forest resources and industries will be published later.

## Highlights of the Forest Situation

### State almost half forested

Extending from the Mississippi River to the Appalachian Mountains, Tennessee has a land area of 26.9 million acres, of which 12.6 million acres or 47 percent is in forest. Virtually all of the forest is capable of producing commercial timber. About 2 percent, chiefly in the Great Smoky Mountains National Park, is withdrawn from commercial timber use. Of the commercial forest acreage, 91 percent is privately owned; the remainder is almost entirely in State and Federal ownership.

Tennessee has considerable physiographic variation, and the proportion of forest (table 1) ranges from 30 to 69 percent within the five Survey regions (fig. 1) into which the State is divided.

West Tennessee has predominantly an agricultural economy and is only 30 percent forested. Geologically it is a part of the Gulf Coastal Plain, which rises gently in elevation from the Mississippi River to its eastern margin overlooking the Tennessee River.

Table 1.--Forest-land area by Survey region, 1948-50

| Survey region | Forest land | Percent of total land forested |
|---|---|---|
| | Thousand acres | |
| West | 1,794.2 | 30 |
| West-central | 2,111.4 | 62 |
| Central | 2,345.1 | 37 |
| Plateau | 3,056.7 | 69 |
| East | 3,300.2 | 49 |
| State | 12,607.6 | 47 |

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[1] Definitions of technical terms will be found on pp. 44-48.

[2] The regional data on forest area and timber volume which are incorporated in this report were first published in Forest Survey Releases 63 and 66.

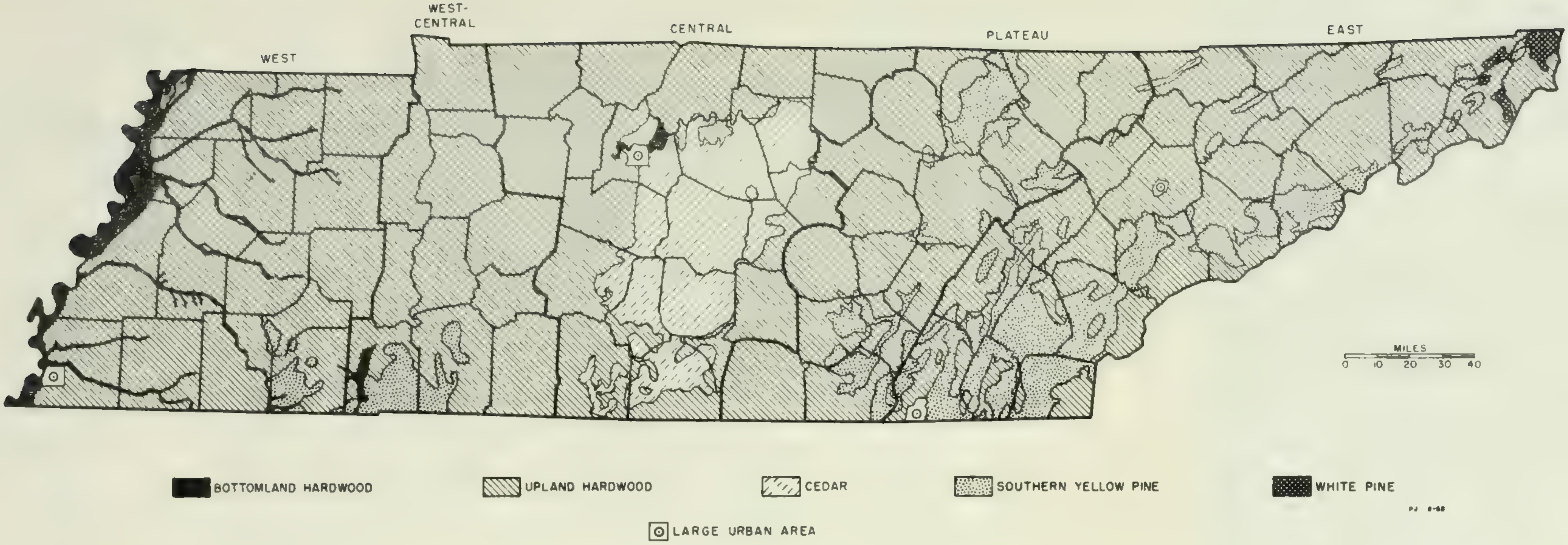

Figure 2.--Generalized forest types in Tennessee. The upland hardwood-pine type is not shown.

The west-central part, bordering the Tennessee River, is hilly and broken. Though 62 percent forested, it also is characterized by a largely agricultural economy.

The central portion, around Nashville, has fertile limestone soils and some poorer shales and sandstones. Here again farming is the chief form of livelihood, and no more than 37 percent of the land is in forest.

The eastern Highland Rim and Cumberland Plateau sections, grouped in this report into the Plateau region, have the highest proportion of forest land--69 percent. The Highland Rim has a flat to rolling topography. Some of its soils are suited to crops, but others are among the least fertile in the State. The Cumberland Plateau averages about 2,000 feet in elevation. Its soils are mainly thin, porous, and unproductive for farming.

East Tennessee, with 49 percent of its land in forest, is made up of two physiographic areas--the Great Valley and the Unaka and Smoky Mountains. The Valley is 30 to 60 miles wide and is composed of a succession of minor valleys and ridges. Some deep soils and many prosperous farms are found in the valleys. The Mountains, rough and rugged, extend along the North Carolina line in a strip 2 to 20 miles wide.

## Hardwood forests predominate

Tennessee is a transition zone where characteristically southern species meet and intermingle with species whose greatest occurrence is farther north. Southern species of oaks and gums are mixed with northern oaks and sugar maple. On the Cumberland Plateau and Appalachian Mountains, the ranges of shortleaf and Virginia pine overlap those of white pine and hemlock. In the higher parts of the Appalachians, spruce and fir also extend their range southward into Tennessee.

Two-thirds of the commercial forest acreage is in upland hardwood forest types (fig. 2). Upland hardwoods are conspicuously predominant in the west-central and central portions of the State. Southern yellow pine types compose 16 percent and occur mainly in the Plateau region and east Tennessee. Bottomland hardwoods are important only in the extreme western part of the State. Cedar types are widely distributed, but are of principal importance in the central region.

## Stands largely cordwood size

Less than one-fourth of Tennessee's commercial forest acreage (fig. 3) is still in saw-timber stands--that is, has a volume of 1,500 board feet per acre in merchantable sawlog-size trees. By far the greatest part, about three-fifths, is in cordwood stands. Most of the remaining acreage is in seedlings and saplings. There are only minor denuded areas.

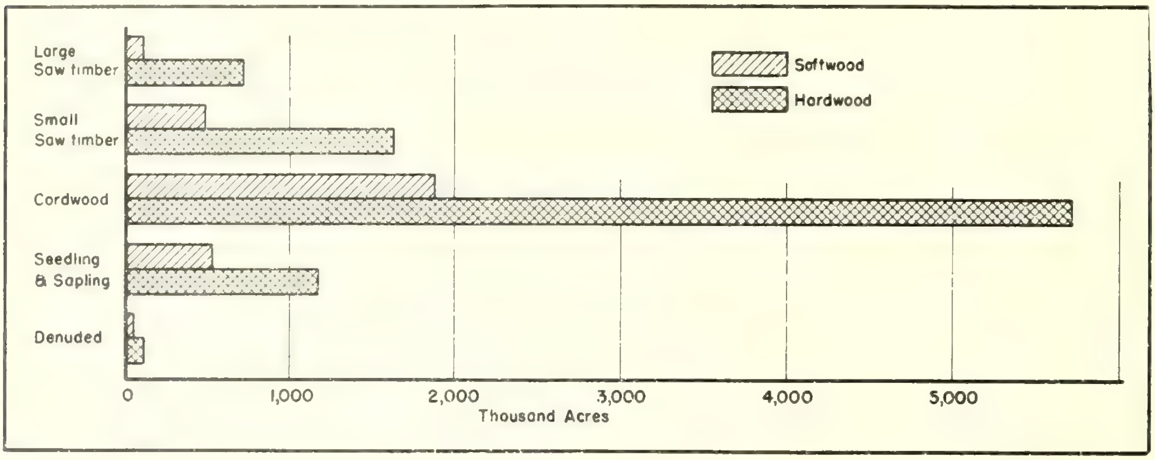

Figure 3.--Forest types by stand size, 1948-50.

As is indicated by figure 3, 25 percent of the area in hardwood types and 20 percent of that in softwood types is in saw-timber stands. Cordwood stands comprise some 60 percent of the area in both hardwood and softwood types. The smaller stand sizes--principally seedlings and saplings--occupy 14 percent of the hardwood types, 19 percent of the softwoods.

## Three-fifths of stands well stocked

Considering all well-formed trees, including well-established seedlings, 58 percent of the commercial forest in the State (fig. 4) can be said to be well stocked, i.e., has 70 percent or more of the number of good trees required for full stocking. Thirty-three percent is medium stocked, or has 40 to 69 percent of the number of trees required for full stocking. About 8 percent is poorly stocked, and only 1 percent is nonstocked. Best stocking occurs in east Tennessee and the Plateau region.

In addition to the stocking of good trees, however, there is a large accumulation of cull trees occupying growing space that could better be used by trees of good form and quality. Culls make up three-tenths of the total basal area of all trees five inches d. b. h. and larger. If the basal area in sound, well-formed 2- and 4-inch trees is added to the basal area of all trees 5 inches d. b. h. and larger, the proportion of cull is one-fourth. On the same basis, the proportion of cull averages almost four-tenths in bottomland hardwoods; one-quarter in upland hardwoods; and only one-sixth in softwood types.

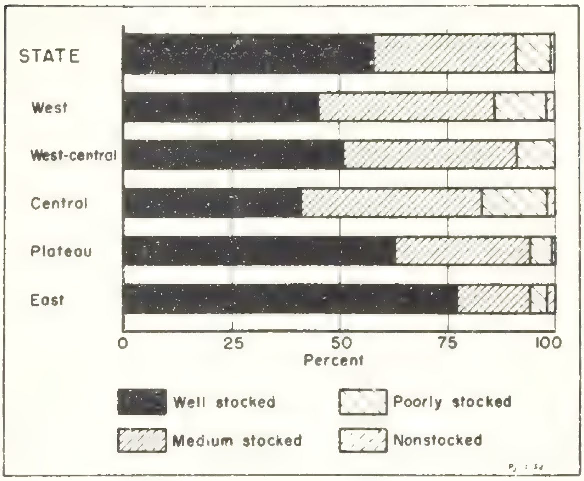

Figure 4. --Tree stocking in commercial forests by Survey region, 1948-50.

Total growing stock 5 billion cubic feet

Total growing stock (which includes sawlog growing stock, tops of softwood sawlog trees, and entire stems of cordwood trees to a top diameter of 4 inches inside bark) amounts to 4. 9 billion cubic feet. Thus the average for the State is 400 cubic feet or about 6 cords per acre of commercial forest land. Hardwood volume exceeds softwood in all sections of the State (fig. 5). Softwoods are important only in the east and Plateau regions. Over half of the total growing stock (54 percent) is in sawlog trees (fig. 6).

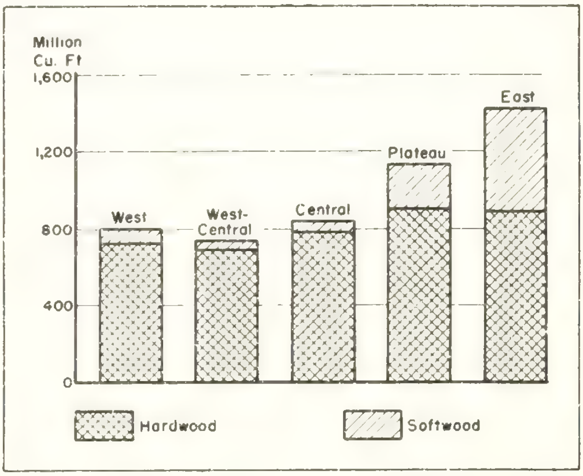

Figure 5. --Total growing stock by Survey region, 1948-50.

Not included in the growing stock is an additional 3.1 billion cubic feet of sound volume that for the most part has little current economic value except for fuel wood. Of this, 39 percent is in tops and limbs of sawlog-size hardwoods, 58 percent is in cull trees, and 3 percent is in salvageable dead trees, mostly chestnut.

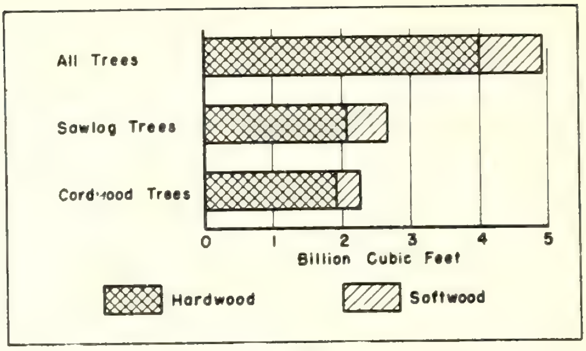

Figure 6.--Total growing stock in cordwood and sawlog trees, 1948-50.

## Sawlog volume 16 billion board feet

Sawlog growing stock in the State totals 16.2 billion board feet, International 1/4-inch rule,[3] of which four-fifths is in hardwoods and one-fifth is in softwoods (fig. 7). Red and white oaks together account for 54 percent of the hardwood volume, hickories for 12 percent, yellow-poplar for 9 percent, gums and other hardwoods for the remaining 25 percent (fig. 8). Southern pines make up 71 percent of the softwood sawlog volume. Other softwoods are cedar, white pine, hemlock, and cypress.

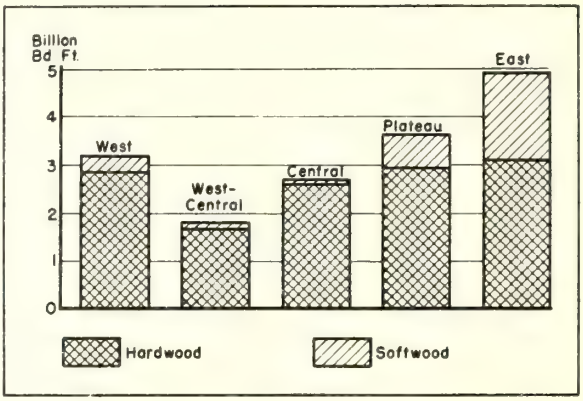

Figure 7.--Sawlog growing stock by Survey region, 1948-50.

The sawlog volume per acre averages about 1,300 board feet for the State. Upland types, both softwood and hardwood, average less than 1,300 board feet per acre, while bottomland hardwoods average more than 2,100. Saw-timber stands of all forest types average 3,500 board feet per acre.

---

[3] All board-foot volumes quoted in this report are net volume, International 1/4-inch kerf rule. Volume by the Doyle rule would total about three-fifths as much for the State.

The highest average sawlog volumes per acre occur in west and east Tennessee. The west-central region averages the lowest.

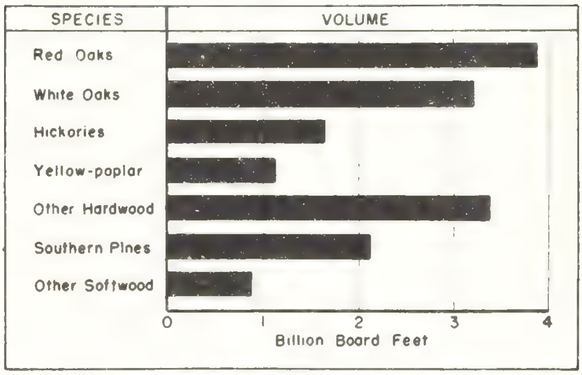

Figure 8.--Sawlog growing stock by species, 1948-50.

## Quality of large hardwood sawlogs is good

A quarter of the hardwood sawlog volume is in trees 20 inches d. b. h. and larger. Over half is in trees 14 to 18 inches and slightly less than a quarter is in 12-inch trees (table 2). The softwood sawlog volume is equally divided between 10- and 12-inch trees and those 14 inches d. b. h. and larger; only a seventh is in trees 20 inches d. b. h. and larger.

Table 2.--Sawlog volume by softwood tree grade, hardwood log grade, and tree diameter

| Species group and d. b. h. class (inches) | All grades | Grade 1[1] | Grade 2 | Grade 3 |
|---|---|---|---|---|
| | | Million board feet | | |
| Softwood: | | | | |
| 10 to 12 | 1,511.6 | 158.1 | 206.9 | 1,146.6 |
| 14 to 18 | 1,075.9 | 182.6 | 224.0 | 669.3 |
| 20 and up | 427.3 | 103.5 | 89.9 | 233.9 |
| Total | 3,014.8 | 444.2 | 520.8 | 2,049.8 |
| Hardwood: | | | | |
| 12 | 2,965.0 | ... | ... | 2,965.0 |
| 14 to 18 | 6,916.4 | 73.2 | 1,465.8 | 5,377.4 |
| 20 and up | 3,343.8 | 1,098.0 | 1,154.8 | 1,091.0 |
| Total | 13,225.2 | 1,171.2 | 2,620.6 | 9,433.4 |
| All classes | 16,240.0 | 1,615.4 | 3,141.4 | 11,483.2 |

[1] All cedar sawlogs were graded as No. 1.

Quality is closely related to tree size. Almost seven-tenths of the hardwood sawlog volume in trees 20 inches d. b. h. and larger is in grades 1 and 2--that is, logs which yield at least 65 and 40 percent respectively of their net volume in No. 1 Common and better grades of lumber. Even in the 14- to 18-inch tree size-class, some two-tenths of the sawlog volume is in grades 1 and 2. The 12-inch class is entirely grade 3, which yields less than 40 percent No. 1 Common and better.

As for softwoods, grade 1 and 2 trees comprise 45 percent of the sawlog volume in trees 20 inches d. b. h. and larger; 38 percent of the volume in 14- to 18-inch trees; and 24 percent in 10- and 12-inch trees. (Grade 1 and 2 softwood trees have at least 12 feet of clear bole and 25 percent of the merchantable length clear of limbs and knots in sections not less than 8 feet in length.)

One-quarter of the grade 3 hardwood material and one-sixth of the grade 3 softwood is in fair or better stands--that is, stands with at least four grade 2 hardwood logs or softwood trees per acre.

Of the acreage in saw-timber stands, 42 percent of the area in hardwood types and 33 percent of the area in softwood types is in fair or better stands.

## Annual total growth, 244 million cubic feet; sawlog growth, 877 million board feet

Current net annual growth of the present timber stands is estimated at 244 million cubic feet for all growing stock, including sawlog trees; and 877 million board feet for sawlog growing stock alone. These estimates include allowances for advance of small trees into cubic- and board-foot volume sizes, and deductions for mortality due to causes other than cutting, such as suppression, fire, disease, insects, and wind throw.

Net annual growth per acre averages 20 cubic feet (about 3/10 cord) for all growing stock and 71 board feet for sawlog growing stock. These averages are far below the full potentiality of the State's forest lands.

## Total 1949 drain, 209 million cubic feet; sawlog drain, 1 billion board feet

In 1949, logging removed an estimated 209 million cubic feet from all growing stock. Of this, lumber made up 48 percent; fuel wood 34 percent; pulpwood 3 percent; other products 15 percent (fig. 9). Seven-tenths of the total drain was from hardwoods.

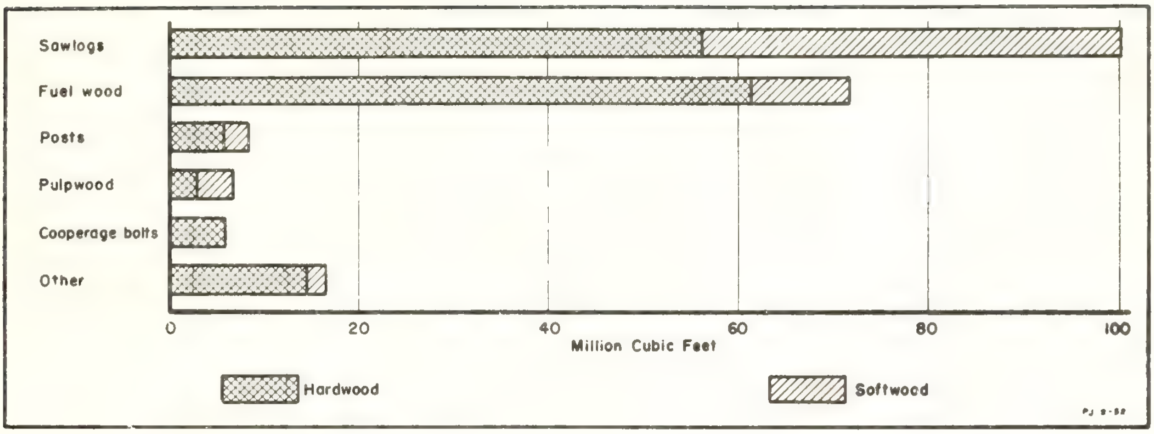

Figure 9.--Drain on total growing stock by commodity, 1949.

The timber cut from sawlog growing stock totaled 1,013 million board feet. This drain on sawlog trees alone differs from total drain chiefly in that sawlogs for lumber make up 58 percent; fuel wood 28 percent; pulpwood 1 percent; other products 13 percent.

The 1949 sawlog drain exceeded annual growth of sawlog growing stock, but total annual growth of all growing stock was greater than total drain. Softwoods, principally southern pines, were seriously overcut: drain exceeded growth by 57 percent for sawlog trees and by 17 percent for all growing stock trees. The hardwood situation is decidedly more favorable--sawlog drain exceeded growth by only 4 percent while the growth on total growing stock exceeded the total 1949 drain by 30 percent.

The production from this drain fed Tennessee's primary forest industries, which include some 2,700 sawmills, 4 pulp mills, and 191 non-lumber establishments manufacturing handle- and cooperage-stock, hardwood dimension, veneer, and other products. The sawmills are chiefly of small size except for a group of larger mills in the Memphis area. There is considerable use of wood for fuel, fence posts, and miscellaneous farm timbers.

## Accuracy of the Survey

The estimates of forest acreage and timber volume are based upon a systematic sampling system involving a forest-nonforest classification on aerial photographs and on-the-ground measurement of quarter-acre sample plots. The sample plots were taken in pairs at and near the intersections of a grid of east-west and north-south lines spaced three miles apart.

Accuracy of the estimates may be affected by two types of error. The first type stems from the use of a sample to estimate the whole and from variability of the item being sampled. This type is termed sampling error; it is susceptible to a mathematical evaluation of the probability of error. The second type of error derives from human mistakes in measurement, judgment, arithmetic, or recording, and from limitations of method or equipment. Effects of this second type of error--often referred to as reporting and estimating error--are not susceptible to a mathematical appraisal, but the Forest Survey constantly attempts to hold such errors to a minimum by proper training and good supervision, and by emphasis on careful work.

Statistical analysis of the data, using random-sampling formulas, indicates a sampling error of 0.4 percent for the State estimate of total forest area, 1.7 percent for total cubic-foot volume, and 2.3 percent for total board-foot volume. However, because a systematic sample is generally more efficient than a random sample of the same size, these estimates of sampling error may be considered as setting an upper limit of error, rather than as expressing the actual probability of error.

As the State total acreage and volumes are broken down by Survey region, county, forest type, species, and other subdivisions of the data, the possibility of error increases and is greatest for the smallest items. The order of this increase is suggested in the following tabulation, which shows the sampling error to which the estimates may be liable on a probability of two chances out of three.

| Maximum sampling error in forest area | | Maximum sampling error in cubic-foot volume | | Maximum sampling error in board-foot volume | |
|---|---|---|---|---|---|
| Thousand acres | Percent error | Million cu. ft. | Percent error | Million bd. ft. | Percent error |
| 12,500 | 0.4 | 5,000 | 1.7 | 16,000 | 2.3 |
| 5,000 | .6 | 2,000 | 2.7 | 10,000 | 2.9 |
| 2,000 | 1.0 | 1,000 | 3.8 | 3,000 | 5.4 |
| 500 | 2.0 | 400 | 6.0 | 1,000 | 9.3 |
| 50 | 6.4 | 40 | 18.9 | 100 | 29.3 |

Growth estimates are based on radial-growth measurements and mortality data taken on the sample plots. No attempt was made to calculate sampling error in the growth estimates.

Drain estimates are conversions of production estimates. Lumber production was estimated from a survey conducted by the U. S. Bureau of Census. For other commodities a canvass of timber production was conducted by the Forest Service, with some assistance from the Division of Forestry Relations of the Tennessee Valley Authority. Commercial log and bolt production, other than for lumber, was obtained by a 100-percent canvass of establishments or producers. Production of fuel wood and fence posts, and for miscellaneous domestic use on farms was estimated from an area sample. The data on production of each commodity were converted to drain upon growing stock by using drain-to-production ratios derived from measurements taken on sample cutting areas. The sampling errors to which the State cubic-foot drain estimates are liable, on a probability of two chances out of three, are found in the tabulation to the right.

| Commodity | Sampling error of cubic-foot drain |
|---|---|
| | Percent error |
| Sawlogs | 12.2 |
| Veneer logs | 5.2 |
| Cooperage bolts | 10.0 |
| Pulpwood | 2.2 |
| Fuel wood | 22.5 |
| Chemical wood | 4.1 |
| Poles and piling | 1.9 |
| Posts | 18.6 |
| Hewn ties | 6.0 |
| Mine timbers | 1.3 |
| Misc. logs and bolts | 5.4 |
| All commodities | 9.0 |

Table 3.--Forest and nonforest land by Survey region, 1948-50

| Land use | State of Tennessee | West | West-central | Central | Plateau | East |
|---|---|---|---|---|---|---|
| | Thousand acres | | | | | |
| Forest:[1] | | | | | | |
| Commercial | 12,353.8 | 1,787.7 | 2,107.1 | 2,344.8 | 3,056.7 | 3,057.5 |
| Reserved-commercial | 253.8 | 6.5 | 4.3 | .3 | ... | 242.7 |
| Total | 12,607.6 | 1,794.2 | 2,111.4 | 2,345.1 | 3,056.7 | 3,300.2 |
| Non-forest | 14,247.4 | 4,216.7 | 1,286.4 | 3,958.9 | 1,373.3 | 3,412.1 |
| All land | 26,855.0 | 6,010.9 | 3,397.8 | 6,304.0 | 4,430.0 | 6,712.3 |

[1] The acreage of forest land incapable of producing commercial timber is negligible.

Table 4.--Forest land by class of ownership, 1948-50

| Class of ownership | Commercial forest | |
|---|---|---|
| | Thousand acres | Percent |
| Private: | | |
| Farm[1] | 5,053.1 | 40.9 |
| Other | 6,187.0 | 50.1 |
| Total private | 11,240.1 | 91.0 |
| Public: [2] | | |
| National forest | 563.3 | 4.6 |
| T. V. A. | 172.8 | 1.4 |
| Other federal | 79.9 | .6 |
| State | 287.7 | 2.3 |
| County and municipal | 10.0 | .1 |
| Total public | 1,113.7 | 9.0 |
| All ownership | 12,353.8 | 100.0 |

1/ Based on 1945 Census of Agriculture.

2/ Compiled in 1949.

Table 5.--Land area and commercial forest by county, 1948-50[1]

| County | All land | Commercial forest | |
|---|---|---|---|
| | Thousand acres | Thousand acres | Percent |
| Anderson | 216.3 | 136.4 | 63.1 |
| Bedford | 308.5 | 77.7 | 25.2 |
| Benton | 275.2 | 146.0 | 53.1 |
| Bledsoe | 258.6 | 186.9 | 72.3 |
| Blount | 373.8 | 119.4 | 31.9 |
| Bradley | 216.3 | 94.8 | 43.8 |
| Campbell | 286.1 | 216.8 | 75.8 |
| Cannon | 173.4 | 78.5 | 45.3 |
| Carroll | 381.4 | 133.4 | 35.0 |
| Carter | 227.2 | 138.7 | 61.0 |
| Cheatham | 195.2 | 126.4 | 64.8 |
| Chester | 182.4 | 67.8 | 37.2 |
| Claiborne | 284.8 | 160.4 | 56.3 |
| Clay | 169.0 | 78.6 | 46.5 |
| Cocke | 277.8 | 127.4 | 45.9 |
| Coffee | 278.4 | 131.7 | 47.3 |
| Crockett | 172.2 | 26.8 | 15.6 |
| Cumberland | 434.5 | 360.9 | 83.1 |
| Davidson | 340.5 | 126.3 | 37.1 |
| Decatur | 221.4 | 125.5 | 56.7 |
| DeKalb | 202.9 | 100.4 | 49.5 |
| Dickson | 311.0 | 141.2 | 45.4 |
| Dyer | 337.3 | 105.3 | 31.2 |
| Fayette | 450.5 | 117.5 | 26.1 |
| Fentress | 319.4 | 229.2 | 71.8 |
| Franklin | 359.0 | 184.1 | 51.3 |
| Gibson | 388.5 | 66.4 | 17.1 |
| Giles | 396.1 | 120.4 | 30.4 |
| Grainger | 198.4 | 83.3 | 42.0 |
| Greene | 394.8 | 134.7 | 34.1 |
| Grundy | 229.1 | 188.9 | 82.5 |
| Hamblen | 111.4 | 29.2 | 26.2 |
| Hamilton | 368.6 | 174.9 | 47.4 |
| Hancock | 147.8 | 78.7 | 53.2 |
| Hardeman | 419.2 | 178.4 | 42.6 |
| Hardin | 380.8 | 221.9 | 58.3 |
| Hawkins | 316.2 | 142.1 | 44.9 |
| Haywood | 332.2 | 89.3 | 26.9 |
| Henderson | 329.6 | 119.2 | 36.2 |
| Henry | 383.4 | 130.0 | 33.9 |
| Hickman | 392.3 | 249.3 | 63.5 |
| Houston | 132.5 | 86.3 | 65.1 |
| Humphreys | 355.2 | 223.1 | 62.8 |
| Jackson | 209.3 | 87.5 | 41.8 |
| Jefferson | 203.5 | 54.3 | 26.7 |
| Johnson | 191.4 | 115.5 | 60.3 |
| Knox | 330.9 | 112.4 | 34.0 |
| Lake | 105.0 | 25.1 | 23.9 |
| Lauderdale | 311.7 | 108.5 | 34.8 |

Table 5.--Land area and commercial forest by county, 1948-50[1] (continued)

| County | All land | Commercial forest | |
|---|---|---|---|
| | Thousand acres | Thousand acres | Percent |
| Lawrence | 405.8 | 174.0 | 42.9 |
| Lewis | 182.4 | 137.4 | 75.3 |
| Lincoln | 371.8 | 139.8 | 37.6 |
| Loudon | 153.6 | 54.9 | 35.7 |
| McMinn | 278.4 | 106.7 | 38.3 |
| McNairy | 364.2 | 139.0 | 38.2 |
| Macon | 194.6 | 79.4 | 40.8 |
| Madison | 359.0 | 113.4 | 31.6 |
| Marion | 324.4 | 249.5 | 76.9 |
| Marshall | 241.3 | 78.2 | 32.4 |
| Maury | 392.9 | 117.5 | 29.9 |
| Meigs | 136.3 | 58.9 | 43.2 |
| Monroe | 425.6 | 252.4 | 59.3 |
| Montgomery | 347.5 | 125.1 | 36.0 |
| Moore | 78.1 | 30.2 | 38.7 |
| Morgan | 344.9 | 285.8 | 82.9 |
| Obion | 352.0 | 94.0 | 26.7 |
| Overton | 282.9 | 144.8 | 51.2 |
| Perry | 268.2 | 192.2 | 71.7 |
| Pickett | 111.4 | 68.7 | 61.7 |
| Polk | 279.0 | 202.7 | 72.7 |
| Putnam | 261.2 | 127.3 | 48.7 |
| Rhea | 214.4 | 119.9 | 55.9 |
| Roane | 242.6 | 114.6 | 47.2 |
| Robertson | 303.4 | 76.8 | 25.3 |
| Rutherford | 403.2 | 123.9 | 30.7 |
| Scott | 351.3 | 297.4 | 84.7 |
| Sequatchie | 174.7 | 139.8 | 80.0 |
| Sevier | 385.9 | 123.3 | 32.0 |
| Shelby | 480.6 | 113.6 | 23.6 |
| Smith | 208.0 | 88.4 | 42.5 |
| Stewart | 309.8 | 208.7 | 67.4 |
| Sullivan | 273.9 | 94.3 | 34.4 |
| Sumner | 353.3 | 124.4 | 35.2 |
| Tipton | 293.1 | 73.4 | 25.0 |
| Trousdale | 74.2 | 24.7 | 33.3 |
| Unicoi | 118.4 | 87.9 | 74.2 |
| Union | 135.7 | 71.8 | 52.9 |
| Van Buren | 163.2 | 134.7 | 82.5 |
| Warren | 282.9 | 120.3 | 42.5 |
| Washington | 209.3 | 67.9 | 32.4 |
| Wayne | 474.2 | 342.7 | 72.3 |
| Weakley | 368.6 | 86.6 | 23.5 |
| White | 246.4 | 121.6 | 49.4 |
| Williamson | 380.2 | 134.5 | 35.4 |
| Wilson | 371.2 | 133.2 | 35.9 |
| All counties | 26,855.0 | 12,353.8 | 46.0 |

[1] County data on sawlog and total growing stock, suitable for combining into county groups, are available as a supplement to this release.

Table 6.--Commercial forest land by stand size and forest type, by Survey region, 1948-50

| Forest type | All stand sizes | Large saw timber | Small saw timber | Cordwood | Seedling and sapling | Denuded |
|---|---|---|---|---|---|---|
| | - - - - - - - - | - - | Thousand acres | - - - - | - - - - | - - - |
| | | | STATE | | | |
| **Softwood types:** | | | | | | |
| Southern yellow pine | 2,033.5 | 69.5 | 445.2 | 1,255.7 | 235.0 | 28.1 |
| Cedar | 893.8 | 10.4 | 14.6 | 565.4 | 282.2 | 21.2 |
| Other softwood | 108.1 | 26.5 | 27.8 | 46.1 | 7.7 | ... |
| Total | 3,035.4 | 106.4 | 487.6 | 1,867.2 | 524.9 | 49.3 |
| **Hardwood types:** | | | | | | |
| Bottomland hardwood | 921.9 | 107.5 | 273.1 | 458.8 | 76.9 | 5.6 |
| Upland hardwood | 6,334.3 | 477.9 | 1,085.2 | 3,896.7 | 807.3 | 67.2 |
| Upland hardwood-pine | 2,062.2 | 125.9 | 264.9 | 1,363.0 | 272.8 | 35.6 |
| Total | 9,318.4 | 711.3 | 1,623.2 | 5,718.5 | 1,157.0 | 108.4 |
| All types | 12,353.8 | 817.7 | 2,110.8 | 7,585.7 | 1,681.9 | 157.7 |
| | | | WEST | | | |
| **Softwood types:** | | | | | | |
| Southern yellow pine | 67.6 | ... | 10.6 | 52.4 | 4.6 | ... |
| Cedar | 15.8 | ... | 3.0 | 9.5 | 3.3 | ... |
| Total | 83.4 | ... | 13.6 | 61.9 | 7.9 | ... |
| **Hardwood types:** | | | | | | |
| Bottomland hardwood | 733.4 | 76.1 | 229.0 | 365.4 | 57.3 | 5.6 |
| Upland hardwood | 867.0 | 57.5 | 223.9 | 428.5 | 134.8 | 22.3 |
| Upland hardwood-pine | 103.9 | 6.2 | 2.1 | 78.6 | 13.7 | 3.3 |
| Total | 1,704.3 | 139.8 | 455.0 | 872.5 | 205.8 | 31.2 |
| All types | 1,787.7 | 139.8 | 468.6 | 934.4 | 213.7 | 31.2 |
| | | | WEST-CENTRAL | | | |
| **Softwood types:** | | | | | | |
| Southern yellow pine | 74.8 | ... | 20.2 | 51.9 | 2.7 | ... |
| Cedar | 64.6 | ... | ... | 44.2 | 20.4 | ... |
| Total | 139.4 | ... | 20.2 | 96.1 | 23.1 | ... |
| **Hardwood types:** | | | | | | |
| Bottomland hardwood | 66.8 | 2.5 | 20.7 | 37.8 | 5.8 | ... |
| Upland hardwood | 1,651.8 | 19.6 | 231.4 | 1,146.2 | 251.9 | 2.7 |
| Upland hardwood-pine | 249.1 | 2.5 | 41.4 | 180.7 | 24.5 | ... |
| Total | 1,967.7 | 24.6 | 293.5 | 1,364.7 | 282.2 | 2.7 |
| All types | 2,107.1 | 24.6 | 313.7 | 1,460.8 | 305.3 | 2.7 |

Table 6.--Commercial forest land by stand size and forest type, by Survey region, 1948-50 (continued)

| Forest type | All stand sizes | Large saw timber | Small saw timber | Cordwood | Seedling and sapling | Denuded |
|---|---|---|---|---|---|---|
| | - - - - - - - - - | - - - - - - - - - | - - - | Thousand acres - - - | - - - - - - - - - | - - - - - - - |
| | | | | CENTRAL | | |
| Softwood types: | | | | | | |
| Southern yellow pine | . . . | . . . | . . . | . . . | . . . | . . . |
| Cedar | 646.0 | 2.6 | 8.1 | 407.1 | 213.0 | 15.2 |
| Total | 646.0 | 2.6 | 8.1 | 407.1 | 213.0 | 15.2 |
| Hardwood types: | | | | | | |
| Bottomland hardwood | 71.9 | 10.5 | 15.1 | 35.0 | 11.3 | . . . |
| Upland hardwood | 1,591.0 | 118.2 | 279.4 | 964.2 | 206.4 | 22.8 |
| Upland hardwood-pine | 35.9 | . . . | 2.7 | 20.5 | 12.7 | . . . |
| Total | 1,698.8 | 128.7 | 297.2 | 1,019.7 | 230.4 | 22.8 |
| All types | 2,344.8 | 131.3 | 305.3 | 1,426.8 | 443.4 | 38.0 |
| | | | | PLATEAU | | |
| Softwood types: | | | | | | |
| Southern yellow pine | 787.4 | 17.4 | 145.7 | 527.1 | 85.7 | 11.5 |
| Cedar | 97.7 | 7.8 | . . . | 72.4 | 17.5 | . . . |
| Other softwood | 38.7 | 8.3 | 8.2 | 16.9 | 5.3 | . . . |
| Total | 923.8 | 33.5 | 153.9 | 616.4 | 108.5 | 11.5 |
| Hardwood types: | | | | | | |
| Bottomland hardwood | 37.3 | 13.4 | 5.8 | 18.1 | . . . | . . . |
| Upland hardwood | 1,367.5 | 144.7 | 254.9 | 857.6 | 100.5 | 9.8 |
| Upland hardwood-pine | 728.1 | 22.5 | 89.1 | 494.8 | 105.4 | 16.3 |
| Total | 2,132.9 | 180.6 | 349.8 | 1,370.5 | 205.9 | 26.1 |
| All types | 3,056.7 | 214.1 | 503.7 | 1,986.9 | 314.4 | 37.6 |
| | | | | EAST | | |
| Softwood types: | | | | | | |
| Southern yellow pine | 1,103.7 | 52.1 | 268.7 | 624.3 | 142.0 | 16.6 |
| Cedar | 69.7 | . . . | 3.5 | 32.2 | 28.0 | 6.0 |
| Other softwood | 69.4 | 18.2 | 19.6 | 29.2 | 2.4 | . . . |
| Total | 1,242.8 | 70.3 | 291.8 | 685.7 | 172.4 | 22.6 |
| Hardwood types: | | | | | | |
| Bottomland hardwood | 12.5 | 5.0 | 2.5 | 2.5 | 2.5 | . . . |
| Upland hardwood | 857.0 | 137.9 | 95.6 | 500.2 | 113.7 | 9.6 |
| Upland hardwood-pine | 945.2 | 94.7 | 129.6 | 588.4 | 116.5 | 16.0 |
| Total | 1,814.7 | 237.6 | 227.7 | 1,091.1 | 232.7 | 25.6 |
| All types | 3,057.5 | 307.9 | 519.5 | 1,776.8 | 405.1 | 48.2 |

Table 7.--Commercial forest land by degree of tree stocking and forest type, by Survey region, 1948-50

| Forest type | All stocking | Well stocked | Medium stocked | Poorly stocked | Non-stocked |
|---|---|---|---|---|---|
| | Thousand acres | | | | |
| | | | STATE | | |
| Softwood types: | | | | | |
| Southern yellow pine | 2,033.5 | 1,428.3 | 482.8 | 94.3 | 28.1 |
| Cedar | 893.8 | 306.3 | 406.0 | 160.3 | 21.2 |
| Other softwood | 108.1 | 60.5 | 32.7 | 14.9 | ... |
| Total | 3,035.4 | 1,795.1 | 921.5 | 269.5 | 49.3 |
| Hardwood types: | | | | | |
| Bottomland hardwood | 921.9 | 414.0 | 394.7 | 107.6 | 5.6 |
| Upland hardwood | 6,334.3 | 3,526.6 | 2,210.0 | 530.5 | 67.2 |
| Upland hardwood-pine | 2,062.2 | 1,387.8 | 534.9 | 103.9 | 35.6 |
| Total | 9,318.4 | 5,328.4 | 3,139.6 | 742.0 | 108.4 |
| All types | 12,353.8 | 7,123.5 | 4,061.1 | 1,011.5 | 157.7 |
| | | | WEST | | |
| Softwood types: | | | | | |
| Southern yellow pine | 67.6 | 26.0 | 37.4 | 4.2 | ... |
| Cedar | 15.8 | 6.3 | 3.0 | 6.5 | ... |
| Total | 83.4 | 32.3 | 40.4 | 10.7 | ... |
| Hardwood types: | | | | | |
| Bottomland hardwood | 733.4 | 313.3 | 316.7 | 97.8 | 5.6 |
| Upland hardwood | 867.0 | 431.8 | 325.0 | 87.9 | 22.3 |
| Upland hardwood-pine | 103.9 | 22.3 | 59.9 | 18.4 | 3.3 |
| Total | 1,704.3 | 767.4 | 701.6 | 204.1 | 31.2 |
| All types | 1,787.7 | 799.7 | 742.0 | 214.8 | 31.2 |
| | | | WEST-CENTRAL | | |
| Softwood types: | | | | | |
| Southern yellow pine | 74.8 | 63.3 | 11.5 | ... | ... |
| Cedar | 64.6 | 8.1 | 50.9 | 5.6 | ... |
| Total | 139.4 | 71.4 | 62.4 | 5.6 | ... |
| Hardwood types: | | | | | |
| Bottomland hardwood | 66.8 | 30.6 | 30.5 | 5.7 | ... |
| Upland hardwood | 1,651.8 | 800.1 | 677.8 | 171.2 | 2.7 |
| Upland hardwood-pine | 249.1 | 181.7 | 61.7 | 5.7 | ... |
| Total | 1,967.7 | 1,012.4 | 770.0 | 182.6 | 2.7 |
| All types | 2,107.1 | 1,083.8 | 832.4 | 188.2 | 2.7 |

Table 7.--Commercial forest land by degree of tree stocking and forest type, by Survey region, 1948-50 (continued)

| Forest type | All stocking | Well stocked | Medium stocked | Poorly stocked | Non-stocked |
|---|---|---|---|---|---|
| | Thousand acres | | | | |
| | | | CENTRAL | | |
| Softwood types: | | | | | |
| Cedar | 646.0 | 199.0 | 298.3 | 133.5 | 15.2 |
| Hardwood types: | | | | | |
| Bottomland hardwood | 71.9 | 41.5 | 26.3 | 4.1 | ... |
| Upland hardwood | 1,591.0 | 700.5 | 647.0 | 220.7 | 22.8 |
| Upland hardwood-pine | 35.9 | 18.2 | 15.4 | 2.3 | ... |
| Total | 1,698.8 | 760.2 | 688.7 | 227.1 | 22.8 |
| All types | 2,344.8 | 959.2 | 987.0 | 360.6 | 38.0 |
| | | | PLATEAU | | |
| Softwood types: | | | | | |
| Southern yellow pine | 787.4 | 495.2 | 236.4 | 44.3 | 11.5 |
| Cedar | 97.7 | 53.3 | 32.0 | 12.4 | ... |
| Other softwood | 38.7 | 13.8 | 18.7 | 6.2 | ... |
| Total | 923.8 | 562.3 | 287.1 | 62.9 | 11.5 |
| Hardwood types: | | | | | |
| Bottomland hardwood | 37.3 | 18.6 | 18.7 | ... | ... |
| Upland hardwood | 1,367.5 | 913.1 | 413.4 | 31.2 | 9.8 |
| Upland hardwood-pine | 728.1 | 433.3 | 237.7 | 40.8 | 16.3 |
| Total | 2,132.9 | 1,365.0 | 669.8 | 72.0 | 26.1 |
| All types | 3,056.7 | 1,927.3 | 956.9 | 134.9 | 37.6 |
| | | | EAST | | |
| Softwood types: | | | | | |
| Southern yellow pine | 1,103.7 | 843.8 | 197.5 | 45.8 | 16.6 |
| Cedar | 69.7 | 39.6 | 21.8 | 2.3 | 6.0 |
| Other softwoods | 69.4 | 46.7 | 14.0 | 8.7 | ... |
| Total | 1,242.8 | 930.1 | 233.3 | 56.8 | 22.6 |
| Hardwood types: | | | | | |
| Bottomland hardwood | 12.5 | 10.0 | 2.5 | ... | ... |
| Upland hardwood | 857.0 | 681.1 | 146.8 | 19.5 | 9.6 |
| Upland hardwood-pine | 945.2 | 732.3 | 160.2 | 36.7 | 16.0 |
| Total | 1,814.7 | 1,423.4 | 309.5 | 56.2 | 25.6 |
| All types | 3,057.5 | 2,353.5 | 542.8 | 113.0 | 48.2 |

Table 8.--Area of saw-timber stands by stand quality and forest type, by Survey region, 1948-50

| Forest type | All qualities | Fair or better | Poor |
|---|---|---|---|
| | Thousand acres | | |
| | STATE | | |
| Softwood types: | | | |
| Southern yellow pine | 514.7 | 170.1 | 344.6 |
| Cedar | 25.0 | 14.3 | 10.7 |
| Other softwood | 54.3 | 14.2 | 40.1 |
| Total | 594.0 | 198.6 | 395.4 |
| Hardwood types: | | | |
| Bottomland hardwood | 380.6 | 152.8 | 227.8 |
| Upland hardwood | 1,563.1 | 655.5 | 907.6 |
| Upland hardwood-pine | 390.8 | 177.3 | 213.5 |
| Total | 2,334.5 | 985.6 | 1,348.9 |
| All types | 2,928.5 | 1,184.2 | 1,744.3 |
| | WEST | | |
| Softwood types: | | | |
| Southern yellow pine | 10.6 | 6.4 | 4.2 |
| Cedar | 3.0 | 3.0 | ... |
| Total | 13.6 | 9.4 | 4.2 |
| Hardwood types: | | | |
| Bottomland hardwood | 305.1 | 130.1 | 175.0 |
| Upland hardwood | 281.4 | 106.8 | 174.6 |
| Upland hardwood-pine | 8.3 | 4.1 | 4.2 |
| Total | 594.8 | 241.0 | 353.8 |
| All types | 608.4 | 250.4 | 358.0 |
| | WEST-CENTRAL | | |
| Softwood types: | | | |
| Southern yellow pine | 20.2 | 5.0 | 15.2 |
| Hardwood types: | | | |
| Bottomland hardwood | 23.2 | 2.5 | 20.7 |
| Upland hardwood | 251.0 | 46.0 | 205.0 |
| Upland hardwood-pine | 43.9 | 15.7 | 28.2 |
| Total | 318.1 | 64.2 | 253.9 |
| All types | 338.3 | 69.2 | 269.1 |

Table 8.--Area of saw-timber stands by stand quality and forest type, by Survey region, 1948-50 (continued)

| Forest type | All qualities | Fair or better | Poor |
|---|---|---|---|
| | Thousand acres | | |
| | | CENTRAL | |
| Softwood types: | | | |
| Cedar | 10.7 | 2.6 | 8.1 |
| Hardwood types: | | | |
| Bottomland hardwood | 25.6 | 6.4 | 19.2 |
| Upland hardwood | 397.6 | 147.5 | 250.1 |
| Upland hardwood-pine | 2.7 | ... | 2.7 |
| Total | 425.9 | 153.9 | 272.0 |
| All types | 436.6 | 156.5 | 280.1 |
| | | PLATEAU | |
| Softwood types: | | | |
| Southern yellow pine | 163.1 | 52.8 | 110.3 |
| Cedar | 7.8 | 5.2 | 2.6 |
| Other softwood | 16.5 | 5.6 | 10.9 |
| Total | 187.4 | 63.6 | 123.8 |
| Hardwood types: | | | |
| Bottomland hardwood | 19.2 | 11.3 | 7.9 |
| Upland hardwood | 399.6 | 196.9 | 202.7 |
| Upland hardwood-pine | 111.6 | 31.2 | 80.4 |
| Total | 530.4 | 239.4 | 291.0 |
| All types | 717.8 | 303.0 | 414.8 |
| | | EAST | |
| Softwood types: | | | |
| Southern yellow pine | 320.8 | 105.9 | 214.9 |
| Cedar | 3.5 | 3.5 | ... |
| Other softwood | 37.8 | 8.6 | 29.2 |
| Total | 362.1 | 118.0 | 244.1 |
| Hardwood types: | | | |
| Bottomland hardwood | 7.5 | 2.5 | 5.0 |
| Upland hardwood | 233.5 | 158.3 | 75.2 |
| Upland hardwood-pine | 224.3 | 126.3 | 98.0 |
| Total | 465.3 | 287.1 | 178.2 |
| All types | 827.4 | 405.1 | 422.3 |

Table 9.--Total volume by class of timber and species, by Survey region, 1948-50

| Species | All timber 1/ | Growing stock |  |  |  | Tops and limbs | Cull trees |
|---|---|---|---|---|---|---|---|
|  |  | Total growing stock | Sawlog trees |  | Cordwood trees |  |  |
|  |  |  | Sawlog portions | Tops |  |  |  |
|  | Thousand cords |  |  |  |  |  |  |
|  | STATE |  |  |  |  |  |  |
| Softwood: |  |  |  |  |  |  |  |
| Southern pine | 9,341 | 9,195 | 5,026 | 672 | 3,497 | ... | 146 |
| Cedar | 1,300 | 1,070 | 311 | 56 | 703 | ... | 230 |
| White pine | 737 | 710 | 511 | 68 | 131 | ... | 27 |
| Hemlock | 782 | 716 | 548 | 71 | 97 | ... | 66 |
| Cypress | 798 | 658 | 531 | 69 | 58 | ... | 140 |
| Total | 12,958 | 12,349 | 6,927 | 936 | 4,486 | ... | 609 |
| Hardwood: |  |  |  |  |  |  |  |
| Red oaks | 25,481 | 15,686 | 9,067 | ... | 6,619 | 5,311 | 4,484 |
| White oaks | 25,033 | 15,171 | 7,622 | ... | 7,549 | 4,691 | 5,171 |
| Hickories | 12,681 | 8,540 | 3,917 | ... | 4,623 | 2,120 | 2,021 |
| Yellow-poplar | 6,233 | 4,508 | 2,617 | ... | 1,891 | 1,160 | 565 |
| Sweetgum | 3,658 | 2,501 | 1,326 | ... | 1,175 | 670 | 487 |
| Black and tupelo gums | 4,043 | 1,921 | 1,115 | ... | 806 | 676 | 1,446 |
| Other hardwoods | 26,477 | 11,521 | 5,542 | ... | 5,979 | 3,342 | 11,614 |
| Total | 103,606 | 59,848 | 31,206 | ... | 28,642 | 17,970 | 25,788 |
| All species | 116,564 | 72,197 | 38,133 | 936 | 33,128 | 17,970 | 26,397 |
|  | WEST |  |  |  |  |  |  |
| Softwood: |  |  |  |  |  |  |  |
| Southern pines | 304 | 303 | 127 | 20 | 156 | ... | 1 |
| Cedar | 102 | 89 | 48 | 9 | 32 | ... | 13 |
| Cypress | 792 | 652 | 527 | 68 | 57 | ... | 140 |
| Total | 1,198 | 1,044 | 702 | 97 | 245 | ... | 154 |
| Hardwood: |  |  |  |  |  |  |  |
| Red oaks | 4,301 | 2,536 | 1,751 | ... | 785 | 1,072 | 693 |
| White oaks | 2,570 | 1,534 | 949 | ... | 585 | 630 | 406 |
| Hickories | 1,702 | 981 | 597 | ... | 384 | 352 | 369 |
| Yellow-poplar | 796 | 561 | 364 | ... | 197 | 160 | 75 |
| Sweetgum | 2,306 | 1,520 | 901 | ... | 619 | 458 | 328 |
| Black and tupelo gums | 1,141 | 509 | 299 | ... | 210 | 187 | 445 |
| Other hardwoods | 7,755 | 3,170 | 1,816 | ... | 1,354 | 1,073 | 3,512 |
| Total | 20,571 | 10,811 | 6,677 | ... | 4,134 | 3,932 | 5,828 |
| All species | 21,769 | 11,855 | 7,379 | 97 | 4,379 | 3,932 | 5,982 |
|  | WEST - CENTRAL |  |  |  |  |  |  |
| Softwood: |  |  |  |  |  |  |  |
| Southern pines | 446 | 442 | 199 | 32 | 211 | ... | 4 |
| Cedar | 102 | 93 | 21 | 4 | 68 | ... | 9 |
| Cypress | 6 | 6 | 4 | 1 | 1 | ... | ... |
| Total | 554 | 541 | 224 | 37 | 280 | ... | 13 |
| Hardwood: |  |  |  |  |  |  |  |
| Red oaks | 4,660 | 3,147 | 1,337 | ... | 1,810 | 694 | 819 |
| White oaks | 5,263 | 3,653 | 1,337 | ... | 2,316 | 731 | 879 |
| Hickories | 115 | 1,506 | 467 | ... | 1,039 | 237 | 372 |
| Yellow-poplar | 709 | 495 | 296 | ... | 199 | 121 | 93 |
| Sweetgum | 606 | 436 | 191 | ... | 245 | 94 | 76 |
| Black and tupelo gums | 503 | 252 | 122 | ... | 130 | 66 | 185 |
| Other hardwoods | 2,100 | 882 | 322 | ... | 560 | 191 | 1,027 |
| Total | 15,956 | 10,371 | 4,072 | ... | 6,299 | 2,134 | 3,451 |
| All species | 16,510 | 10,912 | 4,296 | 37 | 6,579 | 2,134 | 3,464 |

Table 9. --Total volume by class of timber and species, by Survey region, 1948-50 (continued)

| Species | All timber1/ | Growing stock | | | | Tops and limbs | Cull trees |
|---|---|---|---|---|---|---|---|
| | | Total growing stock | Sawlog trees | | Cordwood trees | | |
| | | | Sawlog portions | Tops | | | |
| | Thousand cords | | | | | | |
| | CENTRAL | | | | | | |
| Softwood: | | | | | | | |
| Southern pines | 1 | 1 | ... | ... | 1 | ... | ... |
| Cedar | 822 | 631 | 148 | 27 | 456 | ... | 191 |
| Cypress | ... | ... | ... | ... | ... | ... | ... |
| Total | 823 | 632 | 148 | 27 | 457 | ... | 191 |
| Hardwood: | | | | | | | |
| Red oaks | 4,438 | 2,747 | 1,801 | ... | 946 | 1,090 | 601 |
| White oaks | 3,608 | 2,248 | 1,239 | ... | 1,009 | 778 | 582 |
| Hickories | 2,705 | 1,970 | 755 | ... | 1,215 | 410 | 325 |
| Yellow-poplar | 1,508 | 1,040 | 652 | ... | 388 | 299 | 169 |
| Sweetgum | 433 | 325 | 152 | ... | 173 | 69 | 39 |
| Black and tupelo gums | 429 | 263 | 103 | ... | 160 | 60 | 106 |
| Other hardwoods | 7,531 | 3,194 | 1,439 | ... | 1,755 | 904 | 3,433 |
| Total | 20,652 | 11,787 | 6,141 | ... | 5,646 | 3,610 | 5,255 |
| All species | 21,475 | 12,419 | 6,289 | 27 | 6,103 | 3,610 | 5,446 |
| | PLATEAU | | | | | | |
| Softwood: | | | | | | | |
| Southern pines | 2,567 | 2,498 | 1,264 | 173 | 1,061 | ... | 69 |
| Cedar | 120 | 112 | 41 | 7 | 64 | ... | 8 |
| White pine | 128 | 125 | 67 | 11 | 47 | ... | 3 |
| Hemlock | 321 | 304 | 239 | 32 | 33 | ... | 17 |
| Total | 3,136 | 3,039 | 1,611 | 223 | 1,205 | ... | 97 |
| Hardwood: | | | | | | | |
| Red oaks | 6,285 | 3,730 | 1,985 | ... | 1,745 | 1,194 | 1,361 |
| White oaks | 6,736 | 3,684 | 1,733 | ... | 1,951 | 1,094 | 1,958 |
| Hickories | 3,647 | 2,419 | 1,185 | ... | 1,234 | 643 | 585 |
| Yellow-poplar | 1,367 | 970 | 624 | ... | 346 | 276 | 121 |
| Sweetgum | 139 | 102 | 36 | ... | 66 | 21 | 16 |
| Black and tupelo gums | 1,277 | 550 | 410 | ... | 140 | 251 | 476 |
| Other hardwoods | 4,748 | 2,044 | 1,028 | ... | 1,016 | 640 | 2,064 |
| Total | 24,199 | 13,499 | 7,001 | ... | 5,498 | 4,119 | 6,581 |
| All species | 27,335 | 16,538 | 8,612 | 223 | 7,703 | 4,119 | 6,678 |
| | EAST | | | | | | |
| Softwood: | | | | | | | |
| Southern pines | 6,023 | 5,951 | 3,436 | 447 | 2,068 | ... | 72 |
| Cedar | 154 | 145 | 53 | 9 | 83 | ... | 9 |
| White pine | 609 | 585 | 444 | 57 | 84 | ... | 24 |
| Hemlock | 461 | 412 | 309 | 39 | 64 | ... | 49 |
| Total | 7,247 | 7,093 | 4,242 | 552 | 2,299 | ... | 154 |
| Hardwood: | | | | | | | |
| Red oaks | 5,797 | 3,526 | 2,193 | ... | 1,333 | 1,261 | 1,010 |
| White oaks | 6,856 | 4,052 | 2,364 | ... | 1,688 | 1,458 | 1,346 |
| Hickories | 2,512 | 1,664 | 913 | ... | 751 | 478 | 370 |
| Yellow-poplar | 1,853 | 1,442 | 681 | ... | 761 | 304 | 107 |
| Sweetgum | 174 | 118 | 46 | ... | 72 | 28 | 28 |
| Black and tupelo gums | 693 | 347 | 181 | ... | 166 | 112 | 234 |
| Other hardwoods | 4,343 | 2,231 | 937 | ... | 1,294 | 534 | 1,578 |
| Total | 22,228 | 13,380 | 7,315 | ... | 6,065 | 4,175 | 4,673 |
| All species | 29,475 | 20,473 | 11,557 | 552 | 8,364 | 4,175 | 4,827 |

1/ Sound volume in dead trees considered salvageable is not included. This volume is as follows:

| Region | Chestnut | Other species |
|---|---|---|
| | Thousand cords | |
| West | ... | 48 |
| West-Central | 104 | 48 |
| Central | 121 | 85 |

| Region | Chestnut | Other species |
|---|---|---|
| | Thousand cords | |
| Plateau | 199 | 129 |
| East | 285 | 69 |
| Total | 709 | 379 |

Table 10.--Total volume by class of timber and species, by Survey region, 1948-50

| Species | All timber[1] | Growing stock | | | | Tops and limbs | Cull trees |
|---|---|---|---|---|---|---|---|
| | | Total growing stock | Sawlog trees | | Cordwood trees | | |
| | | | Sawlog portions | Tops | | | |
| | Million cubic feet | | | | | | |
| STATE | | | | | | | |
| Softwood: | | | | | | | |
| Southern pines | 700.6 | 689.6 | 376.9 | 50.4 | 262.3 | ... | 11.0 |
| Cedar | 97.6 | 80.3 | 23.4 | 4.2 | 52.7 | ... | 17.3 |
| White pine | 55.2 | 53.2 | 38.3 | 5.1 | 9.8 | ... | 2.0 |
| Hemlock | 58.7 | 53.7 | 41.1 | 5.3 | 7.3 | ... | 5.0 |
| Cypress | 59.9 | 49.4 | 39.8 | 5.2 | 4.4 | ... | 10.5 |
| Total | 972.0 | 926.2 | 519.5 | 70.2 | 336.5 | ... | 45.8 |
| Hardwood: | | | | | | | |
| Red oaks | 1,707.3 | 1,051.0 | 607.5 | ... | 443.5 | 355.8 | 300.5 |
| White oaks | 1,677.3 | 1,016.5 | 510.7 | ... | 505.8 | 314.3 | 346.5 |
| Hickories | 849.7 | 572.2 | 262.5 | ... | 309.7 | 142.1 | 135.4 |
| Yellow-poplar | 417.5 | 302.0 | 175.3 | ... | 126.7 | 77.7 | 37.8 |
| Sweetgum | 245.2 | 167.6 | 88.9 | ... | 78.7 | 44.9 | 32.7 |
| Black and tupelo gums | 270.8 | 128.7 | 74.7 | ... | 54.0 | 45.2 | 96.9 |
| Other hardwoods | 1,774.1 | 772.0 | 371.4 | ... | 400.6 | 224.0 | 778.1 |
| Total | 6,941.9 | 4,010.0 | 2,091.0 | ... | 1,919.0 | 1,204.0 | 1,727.9 |
| All species | 7,913.9 | 4,936.2 | 2,610.5 | 70.2 | 2,255.5 | 1,204.0 | 1,773.7 |
| WEST | | | | | | | |
| Softwood: | | | | | | | |
| Southern pines | 22.8 | 22.7 | 9.5 | 1.5 | 11.7 | ... | .1 |
| Cedar | 7.7 | 6.7 | 3.6 | .7 | 2.4 | ... | 1.0 |
| Cypress | 59.4 | 48.9 | 39.5 | 5.1 | 4.3 | ... | 10.5 |
| Total | 89.9 | 78.3 | 52.6 | 7.3 | 18.4 | ... | 11.6 |
| Hardwood: | | | | | | | |
| Red oaks | 288.1 | 169.9 | 117.3 | ... | 52.6 | 71.8 | 46.4 |
| White oaks | 172.2 | 102.8 | 63.6 | ... | 39.2 | 42.2 | 27.2 |
| Hickories | 114.0 | 65.7 | 40.0 | ... | 25.7 | 23.6 | 24.7 |
| Yellow-poplar | 53.3 | 37.6 | 24.4 | ... | 13.2 | 10.7 | 5.0 |
| Sweetgum | 154.6 | 101.9 | 60.4 | ... | 41.5 | 30.7 | 22.0 |
| Black and tupelo gums | 76.4 | 34.1 | 20.0 | ... | 14.1 | 12.5 | 29.8 |
| Other hardwoods | 519.6 | 212.4 | 121.7 | ... | 90.7 | 71.9 | 235.3 |
| Total | 1,378.2 | 724.4 | 447.4 | ... | 277.0 | 263.4 | 390.4 |
| All species | 1,468.1 | 802.7 | 500.0 | 7.3 | 295.4 | 263.4 | 402.0 |
| WEST-CENTRAL | | | | | | | |
| Softwood: | | | | | | | |
| Southern pines | 33.4 | 33.1 | 14.9 | 2.4 | 15.8 | ... | .3 |
| Cedar | 7.7 | 7.0 | 1.6 | .3 | 5.1 | ... | .7 |
| Cypress | .5 | .5 | .3 | .1 | .1 | ... | ... |
| Total | 41.6 | 40.6 | 16.8 | 2.8 | 21.0 | ... | 1.0 |
| Hardwood: | | | | | | | |
| Red oaks | 312.3 | 210.9 | 89.6 | ... | 121.3 | 46.5 | 54.9 |
| White oaks | 352.7 | 244.8 | 89.6 | ... | 155.2 | 49.0 | 58.9 |
| Hickories | 141.7 | 100.9 | 31.3 | ... | 69.6 | 15.9 | 24.9 |
| Yellow-poplar | 47.4 | 33.1 | 19.8 | ... | 13.3 | 8.1 | 6.2 |
| Sweetgum | 40.6 | 29.2 | 12.8 | ... | 16.4 | 6.3 | 5.1 |
| Black and tupelo gums | 33.7 | 16.9 | 8.2 | ... | 8.7 | 4.4 | 12.4 |
| Other hardwoods | 140.7 | 59.1 | 21.6 | ... | 37.5 | 12.8 | 68.8 |
| Total | 1,069.1 | 694.9 | 272.9 | ... | 422.0 | 143.0 | 231.2 |
| All species | 1,110.7 | 735.5 | 289.7 | 2.8 | 443.0 | 143.0 | 232.2 |

Table 10.--Total volume by class of timber and species, by Survey region, 1948-50 (continued)

| Species | All timber[1] | Growing stock | | | | Tops and limbs | Cull trees |
|---|---|---|---|---|---|---|---|
| | | Total growing stock | Sawlog trees | | Cordwood trees | | |
| | | | Sawlog portions | Tops | | | |
| | - - - - | - - - - | - - - - | Million cubic feet | - - - - | - - - - | - - - - |
| | | | | CENTRAL | | | |
| **Softwood:** | | | | | | | |
| Southern pines | .1 | .1 | ... | ... | .1 | ... | ... |
| Cedar | 61.6 | 47.3 | 11.1 | 2.0 | 34.2 | ... | 14.3 |
| Cypress | ... | ... | ... | ... | ... | ... | ... |
| Total | 61.7 | 47.4 | 11.1 | 2.0 | 34.3 | ... | 14.3 |
| **Hardwood:** | | | | | | | |
| Red oaks | 297.4 | 184.1 | 120.7 | ... | 63.4 | 73.0 | 40.3 |
| White oaks | 241.7 | 150.6 | 83.0 | ... | 67.6 | 52.1 | 39.0 |
| Hickories | 181.3 | 132.0 | 50.6 | ... | 81.4 | 27.5 | 21.8 |
| Yellow-poplar | 101.0 | 69.7 | 43.7 | ... | 26.0 | 20.0 | 11.3 |
| Sweetgum | 29.0 | 21.8 | 10.2 | ... | 11.6 | 4.6 | 2.6 |
| Black and tupelo gums | 28.7 | 17.6 | 6.9 | ... | 10.7 | 4.0 | 7.1 |
| Other hardwoods | 504.6 | 214.0 | 96.4 | ... | 117.6 | 60.6 | 230.0 |
| Total | 1,383.7 | 789.8 | 411.5 | ... | 378.3 | 241.8 | 352.1 |
| All species | 1,445.4 | 837.2 | 422.6 | 2.0 | 412.6 | 241.8 | 366.4 |
| | | | | PLATEAU | | | |
| **Softwood:** | | | | | | | |
| Southern pines | 192.6 | 187.4 | 94.8 | 13.0 | 79.6 | ... | 5.2 |
| Cedar | 9.0 | 8.4 | 3.1 | .5 | 4.8 | ... | .6 |
| White pine | 9.5 | 9.3 | 5.0 | .8 | 3.5 | ... | .2 |
| Hemlock | 24.1 | 22.8 | 17.9 | 2.4 | 2.5 | ... | 1.3 |
| Total | 235.2 | 227.9 | 120.8 | 16.7 | 90.4 | ... | 7.3 |
| **Hardwood:** | | | | | | | |
| Red oaks | 421.1 | 249.9 | 133.0 | ... | 116.9 | 80.0 | 91.2 |
| White oaks | 451.3 | 246.8 | 116.1 | ... | 130.7 | 73.3 | 131.2 |
| Hickories | 244.4 | 162.1 | 79.4 | ... | 82.7 | 43.1 | 39.2 |
| Yellow-poplar | 91.6 | 65.0 | 41.8 | ... | 23.2 | 18.5 | 8.1 |
| Sweetgum | 9.3 | 6.8 | 2.4 | ... | 4.4 | 1.4 | 1.1 |
| Black and tupelo gums | 85.6 | 36.9 | 27.5 | ... | 9.4 | 16.8 | 31.9 |
| Other hardwoods | 318.2 | 137.0 | 68.9 | ... | 68.1 | 42.9 | 138.3 |
| Total | 1,621.5 | 904.5 | 469.1 | ... | 435.4 | 276.0 | 441.0 |
| All species | 1,856.7 | 1,132.4 | 589.9 | 16.7 | 525.8 | 276.0 | 448.3 |
| | | | | EAST | | | |
| **Softwood:** | | | | | | | |
| Southern pines | 451.7 | 446.3 | 257.7 | 33.5 | 155.1 | ... | 5.4 |
| Cedar | 11.6 | 10.9 | 4.0 | .7 | 6.2 | ... | .7 |
| White pine | 45.7 | 43.9 | 33.3 | 4.3 | 6.3 | ... | 1.8 |
| Hemlock | 34.6 | 30.9 | 23.2 | 2.9 | 4.8 | ... | 3.7 |
| Total | 543.6 | 532.0 | 318.2 | 41.4 | 172.4 | ... | 11.6 |
| **Hardwood:** | | | | | | | |
| Red oaks | 388.4 | 236.2 | 146.9 | ... | 89.3 | 84.5 | 67.7 |
| White oaks | 459.4 | 271.5 | 158.4 | ... | 113.1 | 97.7 | 90.2 |
| Hickories | 168.3 | 111.5 | 61.2 | ... | 50.3 | 32.0 | 24.8 |
| Yellow-poplar | 124.2 | 96.6 | 45.6 | ... | 51.0 | 20.4 | 7.2 |
| Sweetgum | 11.7 | 7.9 | 3.1 | ... | 4.8 | 1.9 | 1.9 |
| Black and tupelo gums | 46.4 | 23.2 | 12.1 | ... | 11.1 | 7.5 | 15.7 |
| Other hardwoods | 291.0 | 149.5 | 62.8 | ... | 86.7 | 35.8 | 105.7 |
| Total | 1,489.4 | 896.4 | 490.1 | ... | 406.3 | 279.8 | 313.2 |
| All species | 2,033.0 | 1,428.4 | 808.3 | 41.4 | 578.7 | 279.8 | 324.8 |

[1] Sound volume in dead trees considered salvageable is not included. This volume is as follows:

| Region | Chestnut | Other species |
|---|---|---|
| | Million cubic feet | |
| West | ... | 3.2 |
| West-Central | 7.0 | 3.2 |
| Central | 8.1 | 5.7 |

| Region | Chestnut | Other species |
|---|---|---|
| | Million cubic feet | |
| Plateau | 13.3 | 8.7 |
| East | 19.1 | 4.6 |
| Total | 47.5 | 25.4 |

Table 11.--Total growing stock by species and stand size, by Survey region, 1948-50

| Species | All stand sizes | Large saw timber | Small saw timber | Cordwood | Seedling and sapling | Denuded |
|---|---|---|---|---|---|---|
| | - - - - - - - - | - - - - - - - - | - - - - Million cubic feet | - - - - - - - - | - - - - - - - - | - - - - - - - - |
| | | | STATE | | | |
| Softwood: | | | | | | |
| Southern pines | 689.6 | 51.8 | 314.3 | 311.3 | 11.7 | 0.5 |
| Cedar | 80.3 | 7.1 | 6.9 | 62.7 | 3.6 | ... |
| White pine | 53.2 | 19.9 | 15.9 | 17.1 | .3 | ... |
| Hemlock | 53.7 | 23.2 | 15.8 | 11.2 | 3.2 | .3 |
| Cypress | 49.4 | 25.6 | 19.7 | 3.9 | .2 | ... |
| Total | 926.2 | 127.6 | 372.6 | 406.2 | 19.0 | .8 |
| Hardwood: | | | | | | |
| Red oaks | 1,051.0 | 186.8 | 308.3 | 536.8 | 18.4 | .7 |
| White oaks | 1,016.5 | 143.5 | 289.6 | 559.9 | 22.6 | .9 |
| Hickories | 572.2 | 62.4 | 158.9 | 339.1 | 11.6 | .2 |
| Yellow-poplar | 302.0 | 50.8 | 113.5 | 133.1 | 4.6 | ... |
| Sweetgum | 167.6 | 24.7 | 71.6 | 68.8 | 2.3 | .2 |
| Black and tupelo gums | 128.7 | 21.8 | 47.8 | 56.5 | 2.6 | ... |
| Other hardwoods | 772.0 | 140.4 | 242.4 | 365.0 | 22.4 | 1.8 |
| Total | 4,010.0 | 630.4 | 1,232.1 | 2,059.2 | 84.5 | 3.8 |
| All species | 4,936.2 | 758.0 | 1,604.7 | 2,465.4 | 103.5 | 4.6 |
| | | | WEST | | | |
| Softwood: | | | | | | |
| Southern pines | 22.7 | 3.1 | 6.6 | 12.7 | .3 | ... |
| Cedar | 6.7 | .2 | 2.9 | 3.5 | .1 | ... |
| Cypress | 48.9 | 25.6 | 19.2 | 3.9 | .2 | ... |
| Total | 78.3 | 28.9 | 28.7 | 20.1 | .6 | ... |
| Hardwood: | | | | | | |
| Red oaks | 169.9 | 34.8 | 67.2 | 64.6 | 2.6 | .7 |
| White oaks | 102.8 | 15.8 | 45.8 | 39.1 | 2.1 | ... |
| Hickories | 65.7 | 7.3 | 28.3 | 29.0 | 1.0 | .1 |
| Yellow-poplar | 37.6 | 2.2 | 28.5 | 6.8 | .1 | ... |
| Sweetgum | 101.9 | 14.3 | 50.7 | 35.6 | 1.1 | .2 |
| Black and tupelo gums | 34.1 | 3.5 | 21.3 | 9.1 | .2 | ... |
| Other hardwoods | 212.4 | 31.5 | 104.4 | 72.9 | 3.1 | .5 |
| Total | 724.4 | 109.4 | 346.2 | 257.1 | 10.2 | 1.5 |
| All species | 802.7 | 138.3 | 374.9 | 277.2 | 10.8 | 1.5 |
| | | | WEST-CENTRAL | | | |
| Softwood: | | | | | | |
| Southern pines | 33.1 | .2 | 14.6 | 17.7 | .6 | ... |
| Cedar | 7.0 | .5 | .3 | 5.9 | .3 | ... |
| Cypress | .5 | ... | .5 | ... | ... | ... |
| Total | 40.6 | .7 | 15.4 | 23.6 | .9 | ... |
| Hardwood: | | | | | | |
| Red oaks | 210.9 | 3.9 | 66.6 | 135.3 | 5.1 | ... |
| White oaks | 244.8 | 1.7 | 68.9 | 168.7 | 5.4 | .1 |
| Hickories | 100.9 | 2.0 | 23.2 | 74.5 | 1.2 | ... |
| Yellow-poplar | 33.1 | .6 | 15.1 | 16.7 | .7 | ... |
| Sweetgum | 29.2 | 2.1 | 7.5 | 19.4 | .2 | ... |
| Black and tupelo gums | 16.9 | .1 | 7.6 | 7.9 | 1.3 | ... |
| Other hardwoods | 59.1 | 3.0 | 19.6 | 36.2 | .3 | ... |
| Total | 694.9 | 13.4 | 208.5 | 458.7 | 14.2 | .1 |
| All species | 735.5 | 14.1 | 223.9 | 482.3 | 15.1 | .1 |

Table 11.--Total growing stock by species and stand size, by Survey region, 1948-50 (continued)

| Species | All stand sizes | Large saw timber | Small saw timber | Cordwood | Seedling and sapling | Denuded |
|---|---|---|---|---|---|---|
| | | | Million cubic feet | | | |
| | | | CENTRAL | | | |
| Softwood: | | | | | | |
| Southern pines | .1 | ... | ... | .1 | ... | ... |
| Cedar | 47.3 | 1.3 | 1.7 | 41.6 | 2.7 | ... |
| Total | 47.4 | 1.3 | 1.7 | 41.7 | 2.7 | ... |
| Hardwood: | | | | | | |
| Red oaks | 184.1 | 33.4 | 55.8 | 89.9 | 5.0 | ... |
| White oaks | 150.6 | 17.5 | 50.5 | 78.6 | 3.5 | .5 |
| Hickories | 132.0 | 7.6 | 34.9 | 84.6 | 4.9 | ... |
| Yellow-poplar | 69.7 | 18.9 | 17.8 | 31.2 | 1.8 | ... |
| Sweetgum | 21.8 | 6.4 | 9.3 | 5.5 | .6 | ... |
| Black and tupelo gums | 17.6 | 3.1 | 5.0 | 9.0 | .5 | ... |
| Other hardwoods | 214.0 | 34.4 | 44.1 | 121.7 | 12.9 | .9 |
| Total | 789.8 | 121.3 | 217.4 | 420.5 | 29.2 | 1.4 |
| All species | 837.2 | 122.6 | 219.1 | 462.2 | 31.9 | 1.4 |
| | | | PLATEAU | | | |
| Softwood: | | | | | | |
| Southern pines | 187.4 | 7.8 | 87.9 | 89.0 | 2.5 | .2 |
| Cedar | 8.4 | 3.3 | .5 | 4.1 | .5 | ... |
| White pine | 9.3 | ... | 4.3 | 4.7 | .3 | ... |
| Hemlock | 22.8 | 11.7 | 4.6 | 4.2 | 2.0 | .3 |
| Total | 227.9 | 22.8 | 97.3 | 102.0 | 5.3 | .5 |
| Hardwood: | | | | | | |
| Red oaks | 249.9 | 39.4 | 66.2 | 140.9 | 3.4 | ... |
| White oaks | 246.8 | 32.4 | 61.2 | 147.5 | 5.7 | ... |
| Hickories | 162.1 | 19.6 | 45.0 | 94.6 | 2.8 | .1 |
| Yellow-poplar | 65.0 | 11.0 | 25.0 | 28.0 | 1.0 | ... |
| Sweetgum | 6.8 | .5 | .9 | 5.2 | .2 | ... |
| Black and tupelo gums | 36.9 | 11.8 | 8.0 | 16.8 | .3 | ... |
| Other hardwoods | 137.0 | 40.3 | 38.5 | 55.3 | 2.5 | .4 |
| Total | 904.5 | 155.0 | 244.8 | 488.3 | 15.9 | .5 |
| All species | 1,132.4 | 177.8 | 342.1 | 590.3 | 21.2 | 1.0 |
| | | | EAST | | | |
| Softwoods: | | | | | | |
| Southern pines | 446.3 | 40.7 | 205.2 | 191.8 | 8.3 | .3 |
| Cedar | 10.9 | 1.8 | 1.5 | 7.6 | ... | ... |
| White pine | 43.9 | 19.9 | 11.6 | 12.4 | ... | ... |
| Hemlock | 30.9 | 11.5 | 11.2 | 7.0 | 1.2 | ... |
| Total | 532.0 | 73.9 | 229.5 | 218.8 | 9.5 | .3 |
| Hardwood: | | | | | | |
| Red oaks | 236.2 | 75.3 | 52.5 | 106.1 | 2.3 | ... |
| White oaks | 271.5 | 76.1 | 63.2 | 126.0 | 5.9 | .3 |
| Hickories | 111.5 | 25.9 | 27.5 | 56.4 | 1.7 | ... |
| Yellow-poplar | 96.6 | 18.1 | 27.1 | 50.4 | 1.0 | ... |
| Sweetgum | 7.9 | 1.4 | 3.2 | 3.1 | .2 | ... |
| Black and tupelo gums | 23.2 | 3.3 | 5.9 | 13.7 | .3 | ... |
| Other hardwoods | 149.5 | 31.2 | 35.8 | 78.9 | 3.6 | ... |
| Total | 896.4 | 231.3 | 215.2 | 434.6 | 15.0 | .3 |
| All species | 1,428.4 | 305.2 | 444.7 | 653.4 | 24.5 | .6 |

Table 12.--Total growing stock volume by species and Survey region, 1948-50

| Species | State of Tennessee | West | West-central | Central | Plateau | East |
|---|---|---|---|---|---|---|
| | Million cubic feet | | | | | |
| Softwood: | | | | | | |
| Shortleaf pine | 375.2 | 21.4 | 31.6 | 0.1 | 123.9 | 198.2 |
| Virginia pine | 235.7 | .1 | 1.5 | ... | 63.2 | 170.9 |
| Other pines | 131.9 | 1.2 | ... | ... | 9.6 | 121.1 |
| Cedar | 80.3 | 6.7 | 7.0 | 47.3 | 8.4 | 10.9 |
| Other softwoods | 103.1 | 48.9 | .5 | ... | 22.8 | 30.9 |
| Total | 926.2 | 78.3 | 40.6 | 47.4 | 227.9 | 532.0 |
| Hardwood: | | | | | | |
| Black, scarlet, and southern red oaks | 756.6 | 101.4 | 152.5 | 125.9 | 188.9 | 187.9 |
| Cherrybark, Shumard, and northern red oaks | 238.1 | 39.5 | 51.0 | 48.6 | 53.4 | 45.6 |
| Water oaks | 56.3 | 29.0 | 7.4 | 9.6 | 7.6 | 2.7 |
| White oak | 526.2 | 49.8 | 157.0 | 85.0 | 114.6 | 119.8 |
| Other white oaks | 490.3 | 53.0 | 87.8 | 65.6 | 132.2 | 151.7 |
| Hickories | 572.2 | 65.7 | 100.9 | 132.0 | 162.1 | 111.5 |
| Yellow-poplar | 302.0 | 37.6 | 33.1 | 69.7 | 65.0 | 96.6 |
| Sweetgum | 167.6 | 101.9 | 29.2 | 21.8 | 6.8 | 7.9 |
| Black and tupelo gums | 128.7 | 34.1 | 16.9 | 17.6 | 36.9 | 23.2 |
| Elms | 111.8 | 42.7 | 10.5 | 39.4 | 11.3 | 7.9 |
| Soft maples | 86.6 | 17.1 | 5.3 | 8.3 | 25.7 | 30.2 |
| Sugar maple | 61.6 | 1.5 | 4.6 | 25.1 | 21.1 | 9.3 |
| Ash | 76.3 | 21.9 | 7.0 | 21.8 | 10.1 | 15.5 |
| Beech | 75.6 | 9.7 | 9.4 | 27.1 | 19.2 | 10.2 |
| Walnut | 61.2 | 2.6 | 7.3 | 26.6 | 7.9 | 16.8 |
| Sycamore | 33.9 | 15.3 | 4.9 | 6.5 | 5.5 | 1.7 |
| Hackberry | 26.6 | 13.8 | 1.2 | 9.8 | .6 | 1.2 |
| Other hardwoods | 238.4 | 87.8 | 8.9 | 49.4 | 35.6 | 56.7 |
| Total | 4,010.0 | 724.4 | 694.9 | 789.8 | 904.5 | 896.4 |
| All species | 4,936.2 | 802.7 | 735.5 | 837.2 | 1,132.4 | 1,428.4 |

Table 13.--Average volume per acre of total growing stock by forest type and Survey region, 1948-50

| Forest type | State of Tennessee | West | West-central | Central | Plateau | East |
|---|---|---|---|---|---|---|
| | Cubic feet | | | | | |
| **Softwood types:** | | | | | | |
| Southern yellow pine | 450 | 379 | 455 | ... | 364 | 516 |
| Cedar | 180 | (1/) | 169 | 167 | (1/) | (1/) |
| Other softwood | (1/) | ... | ... | ... | (1/) | (1/) |
| Total | 383 | 375 | 322 | 167 | 368 | 513 |
| **Hardwood types:** | | | | | | |
| Bottomland hardwood | 550 | 539 | 545 | 584 | (1/) | (1/) |
| Upland hardwood | 400 | 406 | 343 | 425 | 402 | 451 |
| Upland hardwood-pine | 356 | 229 | 352 | 295 | 301 | 416 |
| Total | 405 | 453 | 351 | 429 | 371 | 436 |
| All types | 400 | 449 | 349 | 357 | 370 | 467 |

1/ Sample too small to be reliable.

Table 14.--Basal area per acre of growing stock[1] and cull trees by forest-type group and Survey region, 1948-50

| Forest type | State of Tennessee | West | West-central | Central | Plateau | East |
|---|---|---|---|---|---|---|
| | Square feet | | | | | |
| **Softwood types:** | | | | | | |
| Growing stock | 43.3 | 39.2 | 38.2 | 26.8 | 42.9 | 53.0 |
| Cull trees | 9.2 | 7.6 | 8.0 | 11.5 | 10.5 | 7.2 |
| Total | 52.5 | 46.8 | 46.2 | 38.3 | 53.4 | 60.2 |
| **Bottomland hardwood:** | | | | | | |
| Growing stock | 49.2 | 47.9 | 51.9 | 52.2 | 56.3 | 73.8 |
| Cull trees | 28.5 | 29.7 | 21.5 | 25.5 | 28.3 | 14.6 |
| Total | 77.7 | 77.6 | 73.4 | 77.7 | 84.6 | 88.4 |
| **Upland hardwood[2]** | | | | | | |
| Growing stock | 41.3 | 37.5 | 38.0 | 41.7 | 40.1 | 47.8 |
| Cull trees | 13.2 | 15.3 | 10.7 | 14.6 | 14.8 | 11.6 |
| Total | 54.5 | 52.8 | 48.7 | 56.3 | 54.9 | 59.4 |
| **All types:** | | | | | | |
| Growing stock | 42.4 | 41.8 | 38.5 | 37.9 | 41.1 | 50.1 |
| Cull trees | 13.3 | 20.9 | 10.8 | 14.1 | 13.7 | 9.8 |
| Total | 55.7 | 62.7 | 49.3 | 52.0 | 54.8 | 59.9 |

1/ Includes sound, well-formed 2- and 4- inch trees.

2/ Includes upland hardwood-pine.

Table 15.--Sawlog volume by species and tree diameter, by Survey region, 1948-50

| Species | All diameter classes | 10 - 12 inches 1/ | 14 - 18 inches | 20 - 24 inches | 26 inches and up |
|---|---|---|---|---|---|
| | - - - - - - - - | - - - - - - - - | Million board feet | - - - - - - - - | - - - - - - - - |
| | | | STATE | | |
| Softwood: | | | | | |
| Southern pines | 2,127.1 | 1,263.7 | 767.6 | 86.6 | 9.2 |
| Cedar | 132.4 | 86.0 | 44.0 | 2.4 | ... |
| White pine | 244.0 | 64.8 | 93.9 | 63.2 | 22.1 |
| Hemlock | 261.6 | 54.3 | 65.6 | 72.5 | 69.2 |
| Cypress | 249.7 | 42.8 | 104.8 | 46.3 | 55.8 |
| Total | 3,014.8 | 1,511.6 | 1,075.9 | 271.0 | 156.3 |
| Hardwood: | | | | | |
| Red oaks | 3,878.6 | 814.6 | 1,987.2 | 794.3 | 282.5 |
| White oaks | 3,208.6 | 791.3 | 1,616.3 | 601.8 | 199.2 |
| Hickories | 1,629.2 | 413.5 | 878.9 | 271.5 | 65.3 |
| Yellow-poplar | 1,135.0 | 249.3 | 622.2 | 214.5 | 49.0 |
| Sweetgum | 562.0 | 126.3 | 311.5 | 96.6 | 27.6 |
| Black and tupelo gums | 465.7 | 98.6 | 244.9 | 104.7 | 17.5 |
| Other hardwoods | 2,346.1 | 471.4 | 1,255.4 | 432.8 | 186.5 |
| Total | 13,225.2 | 2,965.0 | 6,916.4 | 2,516.2 | 827.6 |
| All species | 16,240.0 | 4,476.6 | 7,992.3 | 2,787.2 | 983.9 |
| | | | WEST | | |
| Softwood: | | | | | |
| Southern pines | 57.0 | 31.7 | 17.8 | 7.5 | ... |
| Cedar | 21.8 | 6.7 | 15.1 | ... | ... |
| Cypress | 247.7 | 42.4 | 103.2 | 46.3 | 55.8 |
| Total | 326.5 | 80.8 | 136.1 | 53.8 | 55.8 |
| Hardwood: | | | | | |
| Red oaks | 759.5 | 122.5 | 330.7 | 153.3 | 153.0 |
| White oaks | 404.8 | 91.9 | 164.8 | 85.7 | 62.4 |
| Hickories | 253.2 | 63.3 | 120.4 | 50.8 | 18.7 |
| Yellow-poplar | 156.5 | 32.5 | 95.6 | 21.9 | 6.5 |
| Sweetgum | 384.4 | 73.9 | 205.0 | 77.9 | 27.6 |
| Black and tupelo gums | 123.8 | 38.9 | 54.0 | 30.9 | ... |
| Other hardwoods | 762.5 | 144.4 | 432.2 | 138.5 | 47.4 |
| Total | 2,844.7 | 567.4 | 1,402.7 | 559.0 | 315.6 |
| All species | 3,171.2 | 648.2 | 1,538.8 | 612.8 | 371.4 |
| | | | WEST-CENTRAL | | |
| Softwood: | | | | | |
| Southern pines | 87.1 | 59.0 | 23.8 | 4.3 | ... |
| Cedar | 8.9 | 7.9 | 1.0 | ... | ... |
| Cypress | 2.0 | .4 | 1.6 | ... | ... |
| Total | 98.0 | 67.3 | 26.4 | 4.3 | ... |
| Hardwood: | | | | | |
| Red oaks | 555.0 | 213.2 | 307.9 | 29.8 | 4.1 |
| White oaks | 549.4 | 244.9 | 278.8 | 20.9 | 4.8 |
| Hickories | 189.5 | 72.5 | 103.4 | 13.6 | ... |
| Yellow-poplar | 126.7 | 28.8 | 78.3 | 19.6 | ... |
| Sweetgum | 79.1 | 25.8 | 47.9 | 5.4 | ... |
| Black and tupelo gums | 50.7 | 14.0 | 36.7 | ... | ... |
| Other hardwoods | 134.8 | 40.2 | 63.2 | 28.0 | 3.4 |
| Total | 1,685.2 | 639.4 | 916.2 | 117.3 | 12.3 |
| All species | 1,783.2 | 706.7 | 942.6 | 121.6 | 12.3 |

Table 15.--Sawlog volume by species and tree diameter, by Survey region, 1948-50 (continued)

| Species | All diameter classes | 10 - 12 inches 1/ | 14 - 18 inches | 20 - 24 inches | 26 inches and up |
|---|---|---|---|---|---|
| | - - - - - - - | - - - - - - - | Million board feet | - - - - - - - | - - - - - - - |
| | | | CENTRAL | | |
| Softwood: | | | | | |
| Cedar | 61.1 | 40.5 | 20.6 | ... | ... |
| Hardwood: | | | | | |
| Red oaks | 779.5 | 156.9 | 372.7 | 208.1 | 41.8 |
| White oaks | 524.8 | 119.0 | 283.8 | 110.1 | 11.9 |
| Hickories | 313.6 | 84.2 | 160.9 | 62.2 | 6.3 |
| Yellow-poplar | 284.8 | 55.2 | 157.4 | 64.2 | 8.0 |
| Sweetgum | 63.8 | 17.4 | 43.7 | 2.7 | ... |
| Black and tupelo gums | 43.0 | 11.2 | 26.8 | 5.0 | ... |
| Other hardwoods | 613.8 | 127.5 | 315.9 | 120.4 | 50.0 |
| Total | 2,623.3 | 571.4 | 1,361.2 | 572.7 | 118.0 |
| All species | 2,684.4 | 611.9 | 1,381.8 | 572.7 | 118.0 |
| | | | PLATEAU | | |
| Softwood: | | | | | |
| Southern pines | 534.3 | 354.1 | 161.8 | 9.2 | 9.2 |
| Cedar | 17.6 | 14.6 | 3.0 | ... | ... |
| White pine | 28.8 | 15.8 | 13.0 | ... | ... |
| Hemlock | 113.6 | 18.1 | 30.6 | 55.9 | 9.0 |
| Total | 694.3 | 402.6 | 208.4 | 65.1 | 18.2 |
| Hardwood: | | | | | |
| Red oaks | 849.4 | 185.8 | 470.5 | 168.7 | 24.4 |
| White oaks | 726.3 | 169.3 | 380.3 | 135.6 | 41.1 |
| Hickories | 494.1 | 121.6 | 272.0 | 68.7 | 31.8 |
| Yellow-poplar | 273.1 | 56.2 | 146.7 | 49.3 | 20.9 |
| Sweetgum | 14.8 | 6.6 | 8.2 | ... | ... |
| Black and tupelo gums | 176.1 | 21.6 | 90.9 | 46.1 | 17.5 |
| Other hardwoods | 442.7 | 77.2 | 218.0 | 90.2 | 57.3 |
| Total | 2,976.5 | 638.3 | 1,586.6 | 558.6 | 193.0 |
| All species | 3,670.8 | 1,040.9 | 1,795.0 | 623.7 | 211.2 |
| | | | EAST | | |
| Softwood: | | | | | |
| Southern pines | 1,448.7 | 818.9 | 564.2 | 65.6 | ... |
| Cedar | 23.0 | 16.3 | 4.3 | 2.4 | ... |
| White pine | 215.2 | 49.0 | 80.9 | 63.2 | 22.1 |
| Hemlock | 148.0 | 36.2 | 35.0 | 16.6 | 60.2 |
| Total | 1,834.9 | 920.4 | 684.4 | 147.8 | 82.3 |
| Hardwood: | | | | | |
| Red oaks | 935.2 | 136.2 | 505.4 | 234.4 | 59.2 |
| White oaks | 1,003.3 | 166.2 | 508.6 | 249.5 | 79.0 |
| Hickories | 378.8 | 71.9 | 222.2 | 76.2 | 8.5 |
| Yellow-poplar | 293.9 | 76.6 | 144.2 | 59.5 | 13.6 |
| Sweetgum | 19.9 | 2.6 | 6.7 | 10.6 | ... |
| Black and tupelo gums | 72.1 | 12.9 | 36.5 | 22.7 | ... |
| Other hardwoods | 392.3 | 82.1 | 226.1 | 55.7 | 28.4 |
| Total | 3,095.5 | 548.5 | 1,649.7 | 708.6 | 188.7 |
| All species | 4,930.4 | 1,468.9 | 2,334.1 | 856.4 | 271.0 |

1/ Hardwood sawlog volume not tallied in trees under 11.0 inches d.b.h.

Table 25.--**Hardwood saw-timber volume by log grade and stand quality, by species group and Survey region, 1948-51**

| Species group and Survey region | All grades | Grade 1 | Grade 2 | Grade 3 A | | | Grade 3 B | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Total | In fair and better stands | In poor stands | Total | In fair and better stands | In poor stands |
| | Million board feet | | | | | | | | |
| Species group: | | | | | | | | | |
| Red oaks | 6,027.1 | 361.6 | 1,043.0 | 3,527.2 | 1,067.8 | 2,459.4 | 1,095.3 | 338.5 | 756.8 |
| White oaks | 4,778.2 | 430.2 | 876.2 | 2,900.5 | 791.0 | 2,109.5 | 571.3 | 143.5 | 427.8 |
| Hickories | 1,238.2 | 54.2 | 208.6 | 779.6 | 270.3 | 509.3 | 195.8 | 75.5 | 120.3 |
| Sweetgum | 2,580.9 | 151.3 | 319.8 | 1,482.7 | 480.1 | 1,002.6 | 627.1 | 206.8 | 420.3 |
| Black and tupelo gums | 1,255.3 | 160.0 | 302.5 | 691.6 | 273.4 | 418.2 | 101.2 | 35.0 | 66.2 |
| Other hardwoods | 4,143.5 | 330.7 | 1,021.6 | 2,439.8 | 956.4 | 1,483.4 | 351.4 | 81.1 | 270.3 |
| Total | 20,023.2 | 1,488.0 | 3,771.7 | 11,821.4 | 3,839.0 | 7,982.4 | 2,942.1 | 880.4 | 2,061.7 |
| Survey region: | | | | | | | | | |
| Southwest | 6,938.5 | 438.7 | 1,260.8 | 4,248.1 | 1,550.6 | 2,697.5 | 990.9 | 327.8 | 663.1 |
| Ouachita | 1,818.1 | 118.5 | 323.6 | 1,100.6 | 196.8 | 903.8 | 275.4 | 59.5 | 215.9 |
| Ozark | 4,689.8 | 254.3 | 654.9 | 2,646.8 | 743.4 | 1,903.4 | 1,133.8 | 368.9 | 764.9 |
| Delta | 6,576.8 | 676.5 | 1,532.4 | 3,825.9 | 1,348.2 | 2,477.7 | 542.0 | 124.2 | 417.8 |
| Total | 20,023.2 | 1,488.0 | 3,771.7 | 11,821.4 | 3,839.0 | 7,982.4 | 2,942.1 | 880.4 | 2,061.7 |

Table 26. --Net annual growth of saw timber and growing stock by species and class of timber, by Survey region, 1948-51

| Class of timber | Growing stock |  |  | Saw timber |  |  |
|---|---|---|---|---|---|---|
|  | All species | Softwood | Hardwood | All species | Softwood | Hardwood |
|  | - - - Million cubic feet - - - |  |  | - - - Million board feet - - - |  |  |
| STATE |  |  |  |  |  |  |
| Saw-timber trees | 392.6 | 227.0 | 165.6 | 2,180.8 | 1,168.4 | 1,012.4 |
| Pole-timber trees | 156.2 | 31.8 | 124.4 | ... | ... | ... |
| Total | 548.8 | 258.8 | 290.0 | 2,180.8 | 1,168.4 | 1,012.4 |
| SOUTHWEST |  |  |  |  |  |  |
| Saw-timber trees | 212.2 | 152.9 | 59.3 | 1,179.3 | 811.0 | 368.3 |
| Pole-timber trees | 63.6 | 15.3 | 48.3 | ... | ... | ... |
| Total | 275.8 | 168.2 | 107.6 | 1,179.3 | 811.0 | 368.3 |
| OUACHITA |  |  |  |  |  |  |
| Saw-timber trees | 64.7 | 52.8 | 11.9 | 336.2 | 263.1 | 73.1 |
| Pole-timber trees | 25.7 | 10.3 | 15.4 | ... | ... | ... |
| Total | 90.4 | 63.1 | 27.3 | 336.2 | 263.1 | 73.1 |
| OZARK |  |  |  |  |  |  |
| Saw-timber trees | 46.2 | 14.9 | 31.3 | 254.8 | 58.4 | 196.4 |
| Pole-timber trees | 37.9 | 4.4 | 33.5 | ... | ... | ... |
| Total | 84.1 | 19.3 | 64.8 | 254.8 | 58.4 | 196.4 |
| DELTA |  |  |  |  |  |  |
| Saw-timber trees | 69.5 | 6.4 | 63.1 | 410.5 | 35.9 | 374.6 |
| Pole-timber trees | 29.0 | 1.8 | 27.2 | ... | ... | ... |
| Total | 98.5 | 8.2 | 90.3 | 410.5 | 35.9 | 374.6 |

Table 17. --Sawlog volume by species and Survey region, 1948-50

| Species | State of Tennessee | West | West-central | Central | Plateau | East |
|---|---|---|---|---|---|---|
| | Million board feet | | | | | |
| Softwood: | | | | | | |
| Shortleaf pine | 1, 203. 9 | 56. 3 | 83. 4 | . . . | 386. 1 | 678. 1 |
| Virginia pine | 662. 6 | . 7 | 3. 7 | . . . | 147. 2 | 511. 0 |
| Other pines | 504. 6 | . . . | . . . | . . . | 29. 8 | 474. 8 |
| Cedar | 132. 4 | 21. 8 | 8. 9 | 61. 1 | 17. 6 | 23. 0 |
| Other softwoods | 511. 3 | 247. 7 | 2. 0 | . . . | 113. 6 | 148. 0 |
| Total | 3, 014. 8 | 326. 5 | 98. 0 | 61. 1 | 694. 3 | 1, 834. 9 |
| Hardwood: | | | | | | |
| Black, scarlet, and southern red oaks | 2, 761. 1 | 487. 2 | 406. 4 | 549. 2 | 578. 1 | 740. 2 |
| Cherrybark, Shumard, and northern red oaks | 895. 9 | 138. 2 | 134. 2 | 204. 8 | 234. 0 | 184. 7 |
| Water oaks | 221. 6 | 134. 1 | 14. 4 | 25. 5 | 37. 3 | 10. 3 |
| White oak | 1, 701. 2 | 187. 2 | 400. 1 | 290. 8 | 321. 5 | 501. 6 |
| Other white oaks | 1, 507. 4 | 217. 6 | 149. 3 | 234. 0 | 404. 8 | 501. 7 |
| Hickories | 1, 629. 2 | 253. 2 | 189. 5 | 313. 6 | 494. 1 | 378. 8 |
| Yellow-poplar | 1, 135. 0 | 156. 5 | 126. 7 | 284. 8 | 273. 1 | 293. 9 |
| Sweetgum | 562. 0 | 384. 4 | 79. 1 | 63. 8 | 14. 8 | 19. 9 |
| Black and tupelo gums | 465. 7 | 123. 8 | 50. 7 | 43. 0 | 176. 1 | 72. 1 |
| Elms | 355. 6 | 144. 6 | 16. 0 | 123. 4 | 36. 4 | 35. 2 |
| Soft maples | 181. 6 | 56. 5 | 13. 6 | 21. 1 | 42. 3 | 48. 1 |
| Sugar maple | 159. 0 | 7. 1 | 16. 3 | 50. 9 | 55. 0 | 29. 7 |
| Ash | 205. 6 | 52. 8 | 13. 8 | 60. 9 | 27. 6 | 50. 5 |
| Beech | 351. 1 | 40. 7 | 25. 8 | 129. 9 | 115. 4 | 39. 3 |
| Walnut | 184. 6 | 12. 5 | 10. 8 | 74. 8 | 20. 4 | 66. 1 |
| Sycamore | 158. 8 | 76. 3 | 20. 9 | 32. 7 | 23. 4 | 5. 5 |
| Hackberry | 72. 6 | 42. 2 | 2. 7 | 21. 3 | 1. 4 | 5. 0 |
| Other hardwoods | 677. 2 | 329. 8 | 14. 9 | 98. 8 | 120. 8 | 112. 9 |
| Total | 13, 225. 2 | 2, 844. 7 | 1,685. 2 | 2,623. 3 | 2, 976. 5 | 3, 095. 5 |
| All species | 16, 240. 0 | 3, 171. 2 | 1,783. 2 | 2,684. 4 | 3, 670. 8 | 4, 930. 4 |

Table 18.--Average sawlog volume per acre by forest type and Survey region, 1948-50

| Forest type | State of Tennessee | West | West-central | Central | Plateau | East |
|---|---|---|---|---|---|---|
| | Board feet | | | | | |
| Softwood: | | | | | | |
| Southern yellow pine | 1,337 | 740 | 932 | ... | 1,012 | 1,634 |
| Cedar | 426 | (1/) | 269 | 358 | (1/) | (1/) |
| Other softwood | (1/) | ... | ... | ... | (1/) | (1/) |
| Total | 1,150 | 893 | 625 | 358 | 1,108 | 1,668 |
| Hardwood: | | | | | | |
| Bottomland hardwood | 2,135 | 2,201 | 1,329 | 1,832 | (1/) | (1/) |
| Upland hardwood | 1,345 | 1,622 | 841 | 1,440 | 1,429 | 1,724 |
| Upland hardwood-pine | 1,098 | 731 | 879 | 847 | 835 | 1,408 |
| Total | 1,368 | 1,817 | 862 | 1,444 | 1,241 | 1,575 |
| All types | 1,315 | 1,774 | 846 | 1,145 | 1,201 | 1,613 |

1/ Sample too small to be reliable.

Table 19.--Softwood sawlog volume by tree grade and stand quality, by species group and Survey region, 1948-50

| Species group and Survey region | All grades | Grade 1 | Grade 2 | Grade 3 | |
|---|---|---|---|---|---|
| | | | | In fair and better stands | In poor stands |
| | Million board feet | | | | |
| Species group: | | | | | |
| Shortleaf pine | 1,203.9 | 192.4 | 316.3 | 134.6 | 560.6 |
| Other southern pines | 923.2 | 12.3 | 73.5 | 83.3 | 754.1 |
| Cedar | 132.4 | 1/ 132.4 | ... | ... | ... |
| Other softwoods | 755.3 | 107.1 | 131.0 | 113.0 | 404.2 |
| Total | 3,014.8 | 444.2 | 520.8 | 330.9 | 1,718.9 |
| Survey region: | | | | | |
| West | 326.5 | 89.6 | 87.7 | 30.1 | 119.1 |
| West-central | 98.0 | 21.6 | 22.8 | 14.1 | 39.5 |
| Central | 61.1 | 2/ 61.1 | ... | ... | ... |
| Plateau | 694.3 | 55.8 | 138.5 | 106.8 | 393.2 |
| East | 1,834.9 | 216.1 | 271.8 | 179.9 | 1,167.1 |
| Total | 3,014.8 | 444.2 | 520.8 | 330.9 | 1,718.9 |

1/ All cedar sawlog trees were graded as No. 1.

2/ Cedar is the only species represented here.

Table 20. --Hardwood sawlog volume by log grade and stand quality, by species group and Survey region, 1948-50

| Species group and Survey region | All grades | Grade 1 | Grade 2 | Grade 3 A |  |  | Grade 3 B |  |  |
|---|---|---|---|---|---|---|---|---|---|
|  |  |  |  | Total | In fair and better stands | In poor stands | Total | In fair and better stands | In poor stands |
|  | Million board feet |  |  |  |  |  |  |  |  |
| **Species group:** |  |  |  |  |  |  |  |  |  |
| Red oaks | 3,878.6 | 394.2 | 763.4 | 2,166.1 | 592.0 | 1,574.1 | 554.9 | 116.6 | 438.3 |
| White oaks | 3,208.6 | 262.0 | 739.1 | 1,975.0 | 432.7 | 1,542.3 | 232.5 | 52.4 | 180.1 |
| Hickories | 1,629.2 | 112.5 | 322.8 | 1,042.3 | 248.4 | 793.9 | 151.6 | 31.8 | 119.8 |
| Yellow-poplar | 1,135.0 | 71.0 | 224.7 | 546.3 | 164.4 | 381.9 | 293.0 | 67.5 | 225.5 |
| Sweetgum | 562.0 | 52.4 | 63.9 | 291.1 | 70.9 | 220.2 | 154.6 | 49.1 | 105.5 |
| Black and tupelo gums | 465.7 | 43.8 | 107.0 | 277.4 | 72.3 | 205.1 | 37.5 | 15.3 | 22.2 |
| Other hardwoods | 2,346.1 | 235.3 | 399.7 | 1,401.7 | 449.8 | 951.9 | 309.4 | 63.8 | 245.6 |
| Total | 13,225.2 | 1,171.2 | 2,620.6 | 7,699.9 | 2,030.5 | 5,669.4 | 1,733.5 | 396.5 | 1,337.0 |
| **Survey region:** |  |  |  |  |  |  |  |  |  |
| West | 2,844.7 | 350.7 | 420.2 | 1,509.9 | 475.0 | 1,034.9 | 563.9 | 175.3 | 388.6 |
| West-Central | 1,685.2 | 42.1 | 239.3 | 1,108.7 | 133.2 | 975.5 | 295.1 | 31.0 | 264.1 |
| Central | 2,623.3 | 249.2 | 490.6 | 1,570.6 | 338.4 | 1,232.2 | 312.9 | 57.1 | 255.8 |
| Plateau | 2,976.5 | 264.6 | 642.5 | 1,810.3 | 468.6 | 1,341.7 | 259.1 | 53.3 | 205.8 |
| East | 3,095.5 | 264.6 | 828.0 | 1,700.4 | 615.3 | 1,085.1 | 302.5 | 79.8 | 222.7 |
| Total | 13,225.2 | 1,171.2 | 2,620.6 | 7,699.9 | 2,030.5 | 5,669.4 | 1,733.5 | 396.5 | 1,337.0 |

Table 21.--Current annual net growth of sawlog and total growing stock by species and class of timber, by Survey region, 1948-50

| Class of timber | Total growing stock | | | Sawlog growing stock | | |
|---|---|---|---|---|---|---|
| | All species | Soft-wood | Hard-wood | All species | Soft-wood | Hard-wood |
| | Million cubic feet | | | Million board feet | | |
| | | | | STATE | | |
| Sawlog trees | 153.9 | 39.4 | 114.5 | 877.0 | 187.4 | 689.6 |
| Cordwood trees | 90.3 | 14.5 | 75.8 | ... | ... | ... |
| Total | 244.2 | 53.9 | 190.3 | 877.0 | 187.4 | 689.6 |
| | | | | WEST | | |
| Sawlog trees | 34.2 | 3.5 | 30.7 | 196.8 | 16.4 | 180.4 |
| Cordwood trees | 9.5 | .6 | 8.9 | ... | ... | ... |
| Total | 43.7 | 4.1 | 39.6 | 196.8 | 16.4 | 180.4 |
| | | | | WEST-CENTRAL | | |
| Sawlog trees | 21.5 | 2.2 | 19.3 | 114.8 | 8.5 | 106.3 |
| Cordwood trees | 12.7 | .7 | 12.0 | ... | ... | ... |
| Total | 34.2 | 2.9 | 31.3 | 114.8 | 8.5 | 106.3 |
| | | | | CENTRAL | | |
| Sawlog trees | 21.8 | .8 | 21.0 | 135.3 | 3.5 | 131.8 |
| Cordwood trees | 18.9 | 1.4 | 17.5 | ... | ... | ... |
| Total | 40.7 | 2.2 | 38.5 | 135.3 | 3.5 | 131.8 |
| | | | | PLATEAU | | |
| Sawlog trees | 31.7 | 9.7 | 22.0 | 187.3 | 47.6 | 139.7 |
| Cordwood trees | 25.9 | 4.6 | 21.3 | ... | ... | ... |
| Total | 57.6 | 14.3 | 43.3 | 187.3 | 47.6 | 139.7 |
| | | | | EAST | | |
| Sawlog trees | 44.7 | 23.2 | 21.5 | 242.8 | 111.4 | 131.4 |
| Cordwood trees | 23.3 | 7.2 | 16.1 | ... | ... | ... |
| Total | 68.0 | 30.4 | 37.6 | 242.8 | 111.4 | 131.4 |

Table 22. --Current annual net growth per acre of sawlog and total growing stock, by forest-type and stand-size group, by Survey region, 1948-50

| Stand-size group | Total growing stock |  |  | Sawlog growing stock |  |  |
|---|---|---|---|---|---|---|
|  | All types | Softwood types | Hardwood types | All types | Softwood types | Hardwood types |
|  | - - - - - - Cubic feet - - |  |  | - - - - - - Board feet - - |  |  |
|  |  |  | STATE |  |  |  |
| Saw timber | 30 | 41 | 27 | 151 | 179 | 144 |
| Cordwood | 19 | 21 | 18 | 54 | 55 | 54 |
| Other stand sizes | 7 | 5 | 9 | 12 | 10 | 12 |
| Total | 20 | 22 | 19 | 71 | 71 | 71 |
|  |  |  | WEST |  |  |  |
| Saw timber | 37 | 44 | 37 | 208 | 191 | 208 |
| Cordwood | 21 | 32 | 20 | 71 | 69 | 71 |
| Other stand sizes | 6 | ... | 6 | 15 | ... | 15 |
| Total | 24 | 31 | 24 | 110 | 83 | 111 |
|  |  |  | WEST-CENTRAL |  |  |  |
| Saw timber | 23 | 40 | 22 | 128 | 198 | 123 |
| Cordwood | 17 | 24 | 16 | 48 | 51 | 47 |
| Other stand sizes | 6 | ... | 7 | 6 | ... | 7 |
| Total | 16 | 22 | 16 | 54 | 64 | 54 |
|  |  |  | CENTRAL |  |  |  |
| Saw timber | 27 | 19 | 27 | 138 | 75 | 139 |
| Cordwood | 17 | 10 | 20 | 48 | 25 | 57 |
| Other stand sizes | 9 | 4 | 13 | 13 | 7 | 19 |
| Total | 17 | 8 | 21 | 58 | 20 | 72 |
|  |  |  | PLATEAU |  |  |  |
| Saw timber | 29 | 45 | 23 | 126 | 176 | 109 |
| Cordwood | 17 | 19 | 16 | 46 | 51 | 44 |
| Other stand sizes | 9 | 5 | 12 | 13 | 12 | 13 |
| Total | 19 | 22 | 17 | 61 | 71 | 57 |
|  |  |  | EAST |  |  |  |
| Saw timber | 31 | 39 | 24 | 148 | 182 | 121 |
| Cordwood | 22 | 28 | 19 | 65 | 77 | 58 |
| Other stand sizes | 6 | 6 | 5 | 11 | 15 | 7 |
| Total | 22 | 28 | 18 | 79 | 98 | 67 |

Table 23. --Current annual drain of sawlog and total growing stock in species groups, by commodity and Survey region, 1949

| Commodity | Total growing stock |  |  | Sawlog growing stock |  |  |
|---|---|---|---|---|---|---|
|  | All species | Softwood | Hardwood | All species | Softwood | Hardwood |
|  | - - - Million cubic feet - - - |  |  | - - - Million board feet - - - |  |  |
|  |  |  | STATE |  |  |  |
| Sawlogs | 100.1 | 43.9 | 56.2 | 588.5 | 232.5 | 356.0 |
| Veneer logs | 2.0 | (1/) | 2.0 | 14.0 | .2 | 13.8 |
| Cooperage bolts | 5.9 | (1/) | 5.9 | 37.8 | .2 | 37.6 |
| Pulpwood | 6.8 | 3.9 | 2.9 | 11.1 | 5.4 | 5.7 |
| Fuel wood | 71.7 | 10.5 | 61.2 | 283.2 | 49.3 | 233.9 |
| Chemical wood | 2.4 | ... | 2.4 | 7.2 | ... | 7.2 |
| Piling | (1/) | (1/) | (1/) | 0.3 | .1 | .2 |
| Poles | .4 | .4 | ... | 2.1 | 2.1 | ... |
| Posts | 8.3 | 2.5 | 5.8 | 18.8 | .3 | 18.5 |
| Hewn ties | 1.0 | ... | 1.0 | 6.0 | ... | 6.0 |
| Mine timbers | 1.2 | .7 | .5 | .9 | .9 | ... |
| Misc. logs and bolts | 9.5 | .9 | 8.6 | 43.2 | 3.7 | 39.5 |
| Total | 209.3 | 62.8 | 146.5 | 1,013.1 | 294.7 | 718.4 |
|  |  |  | WEST |  |  |  |
| Sawlogs | 15.5 | 2.6 | 12.9 | 95.0 | 13.3 | 81.7 |
| Veneer logs | 1.4 | ... | 1.4 | 9.5 | ... | 9.5 |
| Cooperage bolts | 1.4 | ... | 1.4 | 9.0 | ... | 9.0 |
| Pulpwood | .5 | ... | .5 | 1.0 | ... | 1.0 |
| Fuel wood | 16.0 | ... | 16.0 | 61.1 | ... | 61.1 |
| Chemical wood | .1 | ... | .1 | .3 | ... | .3 |
| Piling | (1/) | (1/) | (1/) | .3 | .1 | .2 |
| Poles | (1/) | (1/) | ... | .2 | .2 | ... |
| Posts | 2.2 | .4 | 1.8 | 5.6 | .1 | 5.5 |
| Hewn ties | .3 | ... | .3 | 1.6 | ... | 1.6 |
| Mine timbers | ... | ... | ... | ... | ... | ... |
| Misc. logs and bolts | 2.1 | ... | 2.1 | 9.6 | ... | 9.6 |
| Total | 39.5 | 3.0 | 36.5 | 193.2 | 13.7 | 179.5 |
|  |  |  | WEST-CENTRAL |  |  |  |
| Sawlogs | 13.9 | 2.8 | 11.1 | 85.3 | 14.9 | 70.4 |
| Veneer logs | .2 | (1/) | .2 | 1.3 | .2 | 1.1 |
| Cooperage bolts | .5 | ... | .5 | 3.4 | ... | 3.4 |
| Pulpwood | .4 | ... | .4 | .8 | ... | .8 |
| Fuel wood | 4.3 | ... | 4.3 | 16.6 | ... | 16.6 |
| Chemical wood | 2.3 | ... | 2.3 | 6.9 | ... | 6.9 |
| Piling | ... | ... | ... | ... | ... | ... |
| Poles | (1/) | (1/) | ... | .1 | .1 | ... |
| Posts | .7 | .2 | .5 | 1.5 | (1/) | 1.5 |
| Hewn ties | .3 | ... | .3 | 2.4 | ... | 2.4 |
| Mine timbers | ... | ... | ... | ... | ... | ... |
| Misc. logs and bolts | 1.4 | ... | 1.4 | 6.5 | ... | 6.5 |
| Total | 24.0 | 3.0 | 21.0 | 124.8 | 15.2 | 109.6 |

Table 23.--Current annual drain of sawlog and total growing stock in species groups, by commodity an
Survey region, 1949 (continued)

| Commodity | Total growing stock |  |  | Sawlog growing stock |  |  |
|---|---|---|---|---|---|---|
|  | All species | Softwood | Hardwood | All species | Softwood | Hardwood |
|  | - - Million cubic feet - - |  |  | - - Million board feet - - |  |  |
|  |  |  | CENTRAL |  |  |  |
| Sawlogs | 12.3 | 2.6 | 9.7 | 74.9 | 13.8 | 61.1 |
| Veneer logs | .1 | ... | .1 | 1.0 | ... | 1.0 |
| Cooperage bolts | 1.8 | ... | 1.8 | 11.2 | ... | 11.2 |
| Pulpwood | (1/) | (1/) | (1/) | (1/) | (1/) | (1/) |
| Fuel wood | 17.6 | ... | 17.6 | 67.3 | ... | 67.3 |
| Chemical wood | ... | ... | ... | ... | ... | ... |
| Piling | ... | ... | ... | ... | ... | ... |
| Poles | ... | ... | ... | ... | ... | ... |
| Posts | 2.8 | .8 | 2.0 | 6.5 | .1 | 6.4 |
| Hewn ties | .1 | ... | .1 | .6 | ... | .6 |
| Mine timbers | ... | ... | ... | ... | ... | ... |
| Misc. logs and bolts | 1.8 | .1 | 1.7 | 8.2 | .7 | 7.5 |
| Total | 36.5 | 3.5 | 33.0 | 169.7 | 14.6 | 155.1 |
|  |  |  | PLATEAU |  |  |  |
| Sawlogs | 25.8 | 13.3 | 12.5 | 149.7 | 70.7 | 79.0 |
| Veneer logs | (1/) | (1/) | (1/) | .3 | (1/) | .3 |
| Cooperage bolts | 1.5 | ... | 1.5 | 9.6 | ... | 9.6 |
| Pulpwood | 1.7 | .5 | 1.2 | 3.1 | .8 | 2.3 |
| Fuel wood | 10.2 | 2.8 | 7.4 | 41.2 | 13.1 | 28.1 |
| Chemical wood | ... | ... | ... | ... | ... | ... |
| Piling | ... | ... | ... | ... | ... | ... |
| Poles | ... | ... | ... | ... | ... | ... |
| Posts | .7 | .3 | .4 | 1.4 | (1/) | 1.4 |
| Hewn ties | .2 | ... | .2 | 1.1 | ... | 1.1 |
| Mine timbers | .7 | .4 | .3 | .5 | .5 | ... |
| Misc. logs and bolts | 2.8 | .1 | 2.7 | 14.2 | .3 | 13.9 |
| Total | 43.6 | 17.4 | 26.2 | 221.1 | 85.4 | 135.7 |
|  |  |  | EAST |  |  |  |
| Sawlogs | 32.6 | 22.6 | 10.0 | 183.6 | 119.8 | 63.8 |
| Veneer logs | .3 | (1/) | .3 | 1.9 | (1/) | 1.9 |
| Cooperage bolts | .7 | (1/) | .7 | 4.6 | .2 | 4.4 |
| Pulpwood | 4.2 | 3.4 | .8 | 6.2 | 4.6 | 1.6 |
| Fuel wood | 23.6 | 7.7 | 15.9 | 97.0 | 36.2 | 60.8 |
| Chemical wood | ... | ... | ... | ... | ... | ... |
| Piling | ... | ... | ... | ... | ... | ... |
| Poles | .4 | .4 | ... | 1.8 | 1.8 | ... |
| Posts | 1.9 | .8 | 1.1 | 3.8 | .1 | 3.7 |
| Hewn ties | .1 | ... | .1 | .3 | ... | .3 |
| Mine timbers | .5 | .3 | .2 | .4 | .4 | ... |
| Misc. logs and bolts | 1.4 | .7 | .7 | 4.7 | 2.7 | 2.0 |
| Total | 65.7 | 35.9 | 29.8 | 304.3 | 165.8 | 138.5 |

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1/ Negligible.

Table 24.--Current annual drain of sawlog and total growing stock by species, 1949

| Species | Total growing stock | Sawlog growing stock |
|---|---|---|
| | Million cubic feet | Million board feet |
| Softwood: | | |
| Southern pines | 49.1 | 234.9 |
| Other | 13.7 | 59.8 |
| Total | 62.8 | 294.7 |
| Hardwood: | | |
| Oaks | 90.9 | 431.7 |
| Hickory | 12.5 | 56.6 |
| Other firm-textured | 20.3 | 95.5 |
| Sweetgum | 7.5 | 43.3 |
| Black and tupelo gums | 1.9 | 11.1 |
| Yellow-poplar | 9.1 | 54.9 |
| Other soft-textured | 4.3 | 25.3 |
| Total | 146.5 | 718.4 |
| All species | 209.3 | 1,013.1 |

Table 25. --Current annual drain of sawlog and total growing stock, by species group and class of timber, by Survey region, 1949

| Class of timber | Total growing stock | | | Sawlog growing stock | | |
|---|---|---|---|---|---|---|
| | All species | Softwood | Hardwood | All species | Softwood | Hardwood |
| | Million cubic feet | | | Million board feet | | |
| | | | STATE | | | |
| Sawlog trees | 164.9 | 53.8 | 111.1 | 1,013.1 | 294.7 | 718.4 |
| Cordwood trees | 44.4 | 9.0 | 35.4 | ... | ... | ... |
| Total | 209.3 | 62.8 | 146.5 | 1,013.1 | 294.7 | 718.4 |
| | | | WEST | | | |
| Sawlog trees | 30.2 | 2.5 | 27.7 | 193.2 | 13.7 | 179.5 |
| Cordwood trees | 9.3 | .5 | 8.8 | ... | ... | ... |
| Total | 39.5 | 3.0 | 36.5 | 193.2 | 13.7 | 179.5 |
| | | | WEST-CENTRAL | | | |
| Sawlog trees | 19.6 | 2.7 | 16.9 | 124.8 | 15.2 | 109.6 |
| Cordwood trees | 4.4 | .3 | 4.1 | ... | ... | ... |
| Total | 24.0 | 3.0 | 21.0 | 124.8 | 15.2 | 109.6 |
| | | | CENTRAL | | | |
| Sawlog trees | 26.7 | 2.6 | 24.1 | 169.7 | 14.6 | 155.1 |
| Cordwood trees | 9.8 | .9 | 8.9 | ... | ... | ... |
| Total | 36.5 | 3.5 | 33.0 | 169.7 | 14.6 | 155.1 |
| | | | PLATEAU | | | |
| Sawlog trees | 36.4 | 15.4 | 21.0 | 221.1 | 85.4 | 135.7 |
| Cordwood trees | 7.2 | 2.0 | 5.2 | ... | ... | ... |
| Total | 43.6 | 17.4 | 26.2 | 221.1 | 85.4 | 135.7 |
| | | | EAST | | | |
| Sawlog trees | 52.0 | 30.6 | 21.4 | 304.3 | 165.8 | 138.5 |
| Cordwood trees | 13.7 | 5.3 | 8.4 | ... | ... | ... |
| Total | 65.7 | 35.9 | 29.8 | 304.3 | 165.8 | 138.5 |

## Definitions of Terms

### Forest Land

*Forest land.* Land which bears forest growth, or land from which the forest has been removed and which has not been put to other use. Each tract classed as forest is at least one acre in size.

*Commercial forest land.* Forest land bearing, or capable of bearing, timber of commercial quantity and quality, and not withdrawn from commercial timber use.

*Reserved-commercial forest land.* Forest land in public parks or preserves which qualifies as commercial forest land except that it is withdrawn from commercial timber use through statute, ordinance, or administrative order.

### Tree Species

*Softwoods.* Southern pines, principally shortleaf (*Pinus echinata*) and Virginia (*P. virginiana*); eastern white pine (*P. strobus*); hemlock (*Tsuga canadensis*); eastern redcedar (*Juniperus virginiana*); and baldcypress (*Taxodium distichum*).

*Hardwoods.* Broadleaved species, of which the most numerous genera or species are the oaks (*Quercus* spp.); hickories (*Carya* spp.); and yellow-poplar (*Liriodendron tulipifera*).

### Forest Type

Forest type is determined only from dominant and codominant growing stock and dominant and codominant smaller sound trees of good form.

*Southern yellow pine.* Stands in which southern pines comprise at least 25 percent of the trees.

*Cedar.* Stands in which eastern redcedar comprises at least 25 percent of the trees.

*Other softwood.* Stands in which softwood species other than southern pines or cedar comprise at least 25 percent of the trees. The principal species are eastern white pine and hemlock.

*Bottomland hardwood.* Stands in which bottomland hardwoods and cypress comprise 76 percent or more of the trees.

Upland hardwood. Stands in which upland hardwoods comprise 76 percent or more of the trees, and no pine is present.

Upland hardwood-pine. Stands in which upland hardwoods comprise 76 percent or more of the trees, and some pine is present.

## Class of Timber

Growing stock. Sawlog growing stock is the sawlog portion of sawlog trees. Total growing stock includes sawlog growing stock and upper stems of softwood sawlog trees and entire stems of cordwood trees to a minimum diameter of 4 inches inside bark.

Sawlog tree. A live, merchantable softwood 9.0 inches or larger in d.b.h., or a live, merchantable hardwood 11.0 inches or larger in d.b.h. To be merchantable, the tree must have at least a merchantable 12-foot butt log or 50 percent of its gross volume in merchantable logs.

Cordwood tree. A live tree 5.0 inches or larger in d.b.h., but smaller than sawlog size, which would become a sawlog tree if it should grow to sawlog size.

Cull tree. A live tree 5.0 inches or larger in d.b.h., which because of decay or sound defect fails to meet the specifications for a cordwood or sawlog tree.

Tops and limbs. Upper stems and limbs of hardwood sawlog trees between the top sawlog and a minimum diameter of 4 inches inside bark.

## Stand-size Class

Large saw timber. Stands having a net volume of at least 1,500 board feet per acre in sawlog trees and at least half of this volume in softwoods 15.0 inches d.b.h. and larger, and hardwoods 17.0 inches d.b.h. and larger.

Small saw timber. Stands which do not meet the specifications for large saw timber but which do contain a net volume of at least 1,500 board feet per acre in sawlog trees.

Cordwood. Stands below saw-timber specifications, with at least 10 percent of the growing space occupied by growing stock, and with at least 5 percent of the growing space occupied by cordwood trees.

Seedling and sapling. Stands that do not meet saw-timber and cordwood specifications in which at least 10 percent of the growing space is occupied by growing stock and smaller sound trees of commercial species, and with at least 5 percent of the space occupied by seedlings and saplings.

Denuded. Commercial forest land which does not qualify for any other stand-size class.

## Tree Stocking

Degree of stocking is determined by the ratio of the actual number of growing-stock and smaller sound trees of good form in the stand to the number of trees of the same size required to occupy the site fully (for best growth). Under this criterion, stands are well stocked when the percentage of full stocking is 70 or above, medium stocked when the percentage is 40 to 69, poorly stocked when the percentage is 10 to 39, and nonstocked when the percentage is under 10.

## Volume and Basal Area

Sawlog volume. Net volume in merchantable sawlogs in sawlog trees, measured by the International 1/4-inch log rule.

Total volume. Volume of sound, usable wood in stems of softwoods and stems and branches of hardwoods between stump and minimum top diameter of 4 inches inside bark, measured in cubic feet.

Basal area. Cross-sectional area of trees at breast height, measured in square feet.

## Diameter

D.b.h. (diameter breast high). Tree diameter in inches, outside bark, measured at 4-1/2 feet above ground.

Diameter class. Each 2-inch diameter class includes diameters 1.0 inch below and 0.9 inch above the stated midpoint. E.g., the 12-inch class includes trees 11.0 up to and including 12.9 inches.

## Growth

Current annual net growth. The change during the inventory year in net volume of the growing stock on commercial forest land resulting from natural causes exclusive of catastrophic losses.

## Drain

Net volume removed from the growing stock through cutting of timber commodities and attendant logging waste.

## Log and Tree Grade

Tree grades for softwoods:

Grade 1 (smooth[1] trees). Not less than 20 feet of clear bole and at least 40 percent of the merchantable length clear of limbs and knots in sections not less than 8 feet in length. All cedar sawlog trees were graded as No. 1.

Grade 2 (limby trees). Not less than 12 feet of clear bole and 25 to 39 percent of the merchantable length clear of limbs and knots in sections not less than 8 feet in length.

Grade 3 (rough trees). Merchantable trees below grade-2 specifications.

Log grades for hardwoods:[2]

Grade 1. Logs having five-sixths or more of their length on the 3 best faces in clear-cuttings not less than 3 feet long; they yield at least 65 percent of their volume in No. 1 Common and better grades of lumber.

Grade 2. Logs having two-thirds to five-sixths of their entire length on the 3 best faces in clear-cuttings not less than 3 feet long; they yield at least 40 percent of their volume in No. 1 Common and better grades of lumber.

Grade 3.--

--A. Logs below grade 2, having 1/2 or more of their entire length on the 3 best faces in clear-cuttings not less than 2 feet long; they yield at least 13 percent of their volume in No. 1 Common and better grades of lumber.

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[1] Except as noted in the case of cedar.

[2] For detailed external specifications of log grades used, see Forest Service Committee on Interim Hardwood Sawlog Grades, "Interim sawlog grades for southern hardwoods," Southern Forest Experiment Station, 9 pp., illus. Rev. 1948.

--B. Logs which do not meet the clear-cutting requirements of 3A or higher grades, but which are sound, reasonably straight, and without large knots or knot clusters; they are suitable for ties or low-grade structural timbers.

## Stand Quality

Fair and better. A stand in which at least four grade 2 or better hardwood logs or softwood trees are present per acre.

Poor. A stand in which fewer than four grade 2 or better hardwood logs or softwood trees are present per acre.

## Standard Forest Survey Tables

To insure that Forest Survey statistics for the different States and major forest regions of the country are on a comparable basis, a plan for nationally standardized terminology, definitions, forest categories, and summary tables has been formulated. The survey of Tennessee's forests was partly completed before the plan was promulgated, and therefore the foregoing tables do not conform in every respect to present national standards.

Chief differences are: (1) the national standards make some changes in the forest type categories used in the foregoing tables; (2) upper-stem volume of hardwood saw-timber trees is included in growing stock under the national standards but excluded from growing stock in the foregoing tables; (3) limb volume of both merchantable and cull hardwood saw-timber trees is included in a single category under the national standards, whereas the hardwood tops and limbs category in the foregoing tables includes upper-stem and limb volumes of merchantable hardwood saw timber but excludes upper stems and limbs of hardwood cull trees; and (4) the foregoing tables use some regional terms--as, for example, "cordwood trees" and "cordwood stands" for the nationally adopted terms of "pole timber trees" and "pole timber stands."

There follows a set of 10 nationally standard tables in which data from the foregoing tables have been adjusted to conform as nearly as possible to the national Forest Survey standards. It will be noted that estimates of cubic volume for timber inventory, growth, and drain are all affected by this adjustment.

Table I. --Land area, by major classes of land, Tennessee, 1948-50

| Class of land | Area |
|---|---|
| | Thousand acres |
| Forest: | |
| Commercial | 12,353.8 |
| Noncommercial: | |
| Reserved from commercial timber use | 253.8 |
| Unproductive for timber use | ... |
| Total | 12,607.6 |
| Nonforest[1] | 14,247.4 |
| Total, all classes | 26,855.0 |

[1] Includes some acreage of water according to Survey standards of area classification but defined by the Bureau of Census as land.

Table II. --Commercial forest land area, by ownership and stand-size classes, Tennessee, 1948-50

| Ownership class | Total | Saw-timber stands | Pole-timber stands | Seedling and sapling stands[1] |
|---|---|---|---|---|
| | Thousand acres | Thousand acres | Thousand acres | Thousand acres |
| Federally owned or managed: | | | | |
| National forest | 563.3 | 219.7 | 298.5 | 45.1 |
| Indian | ... | ... | ... | ... |
| Other | 252.7 | 99.2 | 135.3 | 18.2 |
| Total | 816.0 | 318.9 | 433.8 | 63.3 |
| State[2] | 297.7 | 59.5 | 190.6 | 47.6 |
| County and municipal[2] | ... | ... | ... | ... |
| Private | 11,240.1 | 2,550.1 | 6,961.3 | 1,728.7 |
| All ownership | 12,353.8 | 2,928.5 | 7,585.7 | 1,839.6 |

[1] Nonstocked and other areas included with seedling and sapling stands.

[2] County and municipal included with State.

Table III. --Area of commercial forest land, by major forest types, Tennessee, 1948-50

| Forest type | Thousand acres |
|---|---|
| White-red-jack pine | 108.1 |
| Spruce-fir | ... |
| Longleaf-slash pine | 3.0 |
| Loblolly-shortleaf pine | 1,611.7 |
| Oak-pine | 1,312.6 |
| Oak-hickory | 7,894.9 |
| Oak-gum-cypress | 846.1 |
| Elm-ash-cottonwood | 75.8 |
| Maple-beech-birch | 501.6 |
| Aspen-birch | ... |
| Total | 12,353.8 |

Table IV. --Net volume of live saw timber and growing stock on commercial forest land, by stand-size class, Tennessee, 1948-50

| Stand-size class | Saw timber | Growing stock |
|---|---|---|
| | Million bd. ft. | Million cu. ft. |
| Saw-timber stands | 10,354.7 | 2,857.9 |
| Pole-timber stands | 5,547.2 | 2,745.9 |
| Seedling and sapling stands | 322.5 | 119.3 |
| Nonstocked and other areas not elsewhere classified | 15.6 | 5.4 |
| Total | 16,240.0 | 5,728.5 |

Table V.--Net volume of live saw timber and growing stock on commercial forest land, by ownership class, Tennessee, 1948-50

| Ownership class | Saw timber | Growing stock |
|---|---|---|
| | Million bd. ft. | Million cu. ft. |
| Federally owned or managed: | | |
| National Forest | 1,163.8 | 347.8 |
| Indian | ... | ... |
| Other | 469.0 | 159.1 |
| Total | 1,632.8 | 506.9 |
| State[1] | 374.8 | 146.0 |
| County and municipal[1] | | |
| Private: | | |
| Farm[2] | ... | ... |
| Industrial and other[2] | ... | ... |
| Total | 14,232.4 | 5,075.6 |
| All ownerships | 16,240.0 | 5,728.5 |

[1] County and municipal included with State.

[2] Data not available.

Table VI. --Net volume of live saw timber and growing stock on commercial forest land, by species, Tennessee, 1948-50

| Species | Saw timber | Growing stock |
|---|---|---|
| | Million bd. ft. | Million cu. ft. |
| Softwoods: | | |
| Longleaf and slash pines | ... | ... |
| Shortleaf and loblolly pines | 1,240.6 | 392.0 |
| Other southern yellow pines | 886.5 | 297.6 |
| Spruce and balsam fir | ... | ... |
| White and red pines | 244.0 | 53.2 |
| Jack pine | ... | ... |
| Hemlock | 261.6 | 53.7 |
| Cypress | 249.7 | 49.4 |
| Other eastern softwoods | 132.4 | 80.3 |
| Total | 3,014.8 | 926.2 |
| Hardwoods: | | |
| White oaks (*Q. alba* and *prinus*) | 1,834.6 | 671.0 |
| Red oaks (*Q. borealis* and *falcata* var. *pagodaefolia*) | 503.6 | 147.2 |
| Other white oaks | 1,374.0 | 537.7 |
| Other red oaks | 3,375.0 | 1,136.1 |
| Yellow birch | ... | ... |
| Sugar maple | 159.0 | 71.1 |
| Soft maples | 181.6 | 97.5 |
| Beech | 351.1 | 96.6 |
| Sweetgum | 562.0 | 201.3 |
| Tupelo and blackgum | 465.7 | 156.6 |
| Ash | 205.6 | 88.6 |
| Hickory | 1,652.9 | 683.3 |
| Cottonwood and aspen | 79.4 | 18.4 |
| Basswood | 79.7 | 23.2 |
| Yellow-poplar | 1,135.0 | 370.0 |
| Black walnut | 184.6 | 72.3 |
| Other eastern hardwoods | 1,081.4 | 431.4 |
| Total | 13,225.2 | 4,802.3 |
| All species | 16,240.0 | 5,728.5 |

Table VII. --Net volume of live saw timber on commercial forest land, by diameter class groups and species, Tennessee, 1948-50

| Species | Diameter class groups | | | | | | Total |
|---|---|---|---|---|---|---|---|
| | 10 inches | 12 inches | 14 inches | 16 inches | 18 inches | 20 inches and up | |
| | Million board feet | | | | | | |
| Southern yellow pines | 681.0 | 582.7 | 439.9 | 221.6 | 106.1 | 95.8 | 2,127.1 |
| White and red pines | 27.5 | 37.3 | 37.1 | 27.6 | 29.2 | 85.3 | 244.0 |
| Other eastern softwoods | 77.8 | 105.3 | 81.0 | 71.2 | 62.2 | 246.2 | 643.7 |
| White oaks (*Q. alba* and *prinus*) | ... | 462.2 | 395.4 | 268.9 | 249.6 | 458.5 | 1,834.6 |
| Other white oaks | ... | 329.1 | 315.4 | 222.0 | 165.0 | 342.5 | 1,374.0 |
| Red oaks (*Q. borealis* and *falcata* var. *pagodaefolia*) | ... | 81.9 | 89.7 | 113.1 | 67.5 | 151.4 | 503.6 |
| Other red oaks | ... | 732.7 | 676.9 | 590.6 | 449.4 | 925.4 | 3,375.0 |
| Yellow birch | ... | ... | ... | ... | ... | ... | ... |
| Sugar maple | ... | 31.7 | 31.1 | 37.3 | 10.5 | 48.4 | 159.0 |
| Beech | ... | 26.0 | 28.5 | 53.0 | 65.6 | 178.0 | 351.1 |
| Sweetgum | ... | 126.3 | 118.4 | 98.2 | 94.9 | 124.2 | 562.0 |
| Tupelo and blackgum | ... | 98.6 | 99.6 | 90.8 | 54.5 | 122.2 | 465.7 |
| Yellow-poplar | ... | 249.3 | 239.3 | 217.1 | 165.8 | 263.5 | 1,135.0 |
| Other eastern hardwoods | ... | 827.2 | 800.7 | 678.4 | 429.2 | 729.7 | 3,465.2 |

Table VIII. --Net volume of all timber on commercial forest land, by class of material and species group, Tennessee, 1948-50

| Class of material | Total | Softwoods | Hardwoods |
|---|---|---|---|
| | Million cubic ft. | Million cubic ft. | Million cubic ft. |
| Growing stock: | | | |
| Saw-timber trees: | | | |
| Sawlog portion | 2,610.5 | 519.5 | 2,091.0 |
| Upper stem portion | 862.5 | 70.2 | 792.3 |
| Total | 3,473.0 | 589.7 | 2,883.3 |
| Pole-timber trees | 2,255.5 | 336.5 | 1,919.0 |
| Total growing stock | 5,728.5 | 926.2 | 4,802.3 |
| Other material: | | | |
| Sound cull trees | 786.6 | 26.5 | 760.1 |
| Rotten cull trees | 777.5 | 19.3 | 758.2 |
| Hardwood limbs | 621.3 | . . | 621.3 |
| Salvable dead trees | 72.9 | 5.5 | 67.4 |
| Total other material | 2,258.3 | 51.3 | 2,207.0 |
| Total, all timber | 7,986.8 | 977.5 | 7,009.3 |

Table IX. --Net annual growth, annual mortality, and commodity drain on live saw timber and growing stock on commercial forest land, by species group, Tennessee, 1948-50

| Item | Saw timber | | | Growing stock | | |
|---|---|---|---|---|---|---|
| | Total | Softwoods | Hardwoods | Total | Softwoods | Hardwoods |
| | Million board feet | | | Million cubic feet | | |
| Net annual growth | 877.0 | 187.4 | 689.6 | 285.5 | 53.9 | 231.6 |
| Annual mortality | 97.4 | 18.1 | 79.3 | 41.1 | 6.6 | 34.5 |
| Commodity drain | | | | | | |
| Timber products | 962.7 | 288.9 | 673.8 | 211.0 | 56.9 | 154.1 |
| Logging waste | 50.4 | 5.8 | 44.6 | 41.3 | 5.9 | 35.4 |
| Total commodity drain | 1,013.1 | 294.7 | 718.4 | 252.3 | 62.8 | 189.5 |

Table X. --Total output of timber products and commodity drain on live saw timber and growing stock, Tennessee, 1949

| Product | Volume of products cut1/ | | | Commodity drain on saw timber | | | Commodity drain on growing stock | | |
|---|---|---|---|---|---|---|---|---|---|
| | Standard unit | Number | M cu. ft. | Total | Soft-woods | Hard-woods | Total | Soft-woods | Hard-woods |
| | | | | Million bd. ft. | | | Million cu. ft. | | |
| Sawlogs | MBM2/ | 604,449 | 97,076 | 588.5 | 232.5 | 356.0 | 121.4 | 43.9 | 77.5 |
| Veneer logs and bolts | MBM2/ | 12,764 | 1,787 | 14.0 | .2 | 13.8 | 2.8 | (5/) | 2.8 |
| Cooperage logs and bolts | MBM2/ | 28,183 | 4,056 | 37.8 | .2 | 37.6 | 8.2 | (5/) | 8.2 |
| Pulpwood logs | MBM2/ | ... | ... | ... | ... | ... | ... | ... | ... |
| Pulpwood bolts | Std. cords3/ | 158,059 | 12,153 | 11.1 | 5.4 | 5.7 | 7.1 | 3.9 | 3.2 |
| Fuel wood | Std. cords3/ | 1,674,000 | 125,610 | 283.2 | 49.3 | 233.9 | 85.7 | 10.5 | 75.2 |
| Piling | M linear feet | 41 | 41 | .3 | .1 | .2 | (5/) | (5/) | ... |
| Poles | M pieces | 88 | 361 | 2.1 | 2.1 | ... | .4 | .4 | ... |
| Posts | M pieces | 14,776 | 9,309 | 18.8 | .3 | 18.5 | 9.4 | 2.5 | 6.9 |
| Hewn ties | M pieces | 113 | 793 | 6.0 | ... | 6.0 | 1.4 | ... | 1.4 |
| Mine timbers | M cu. ft. | 1,089 | 1,089 | .9 | .9 | ... | 1.2 | .7 | .5 |
| Miscellaneous4/ | M cu. ft. | 11,188 | 11,188 | 50.4 | 3.7 | 46.7 | 14.7 | .9 | 13.8 |
| Total | ... | ... | 263,463 | 1,013.1 | 294.7 | 718.4 | 252.3 | 62.8 | 189.5 |

1/ Includes material from both growing stock and other miscellaneous sources. 2/ International 1/4-inch rule. 3/ Rough wood basis. 4/ Includes chemical wood, excelsior, handle stock, shingle bolts, etc. 5/ Negligible.

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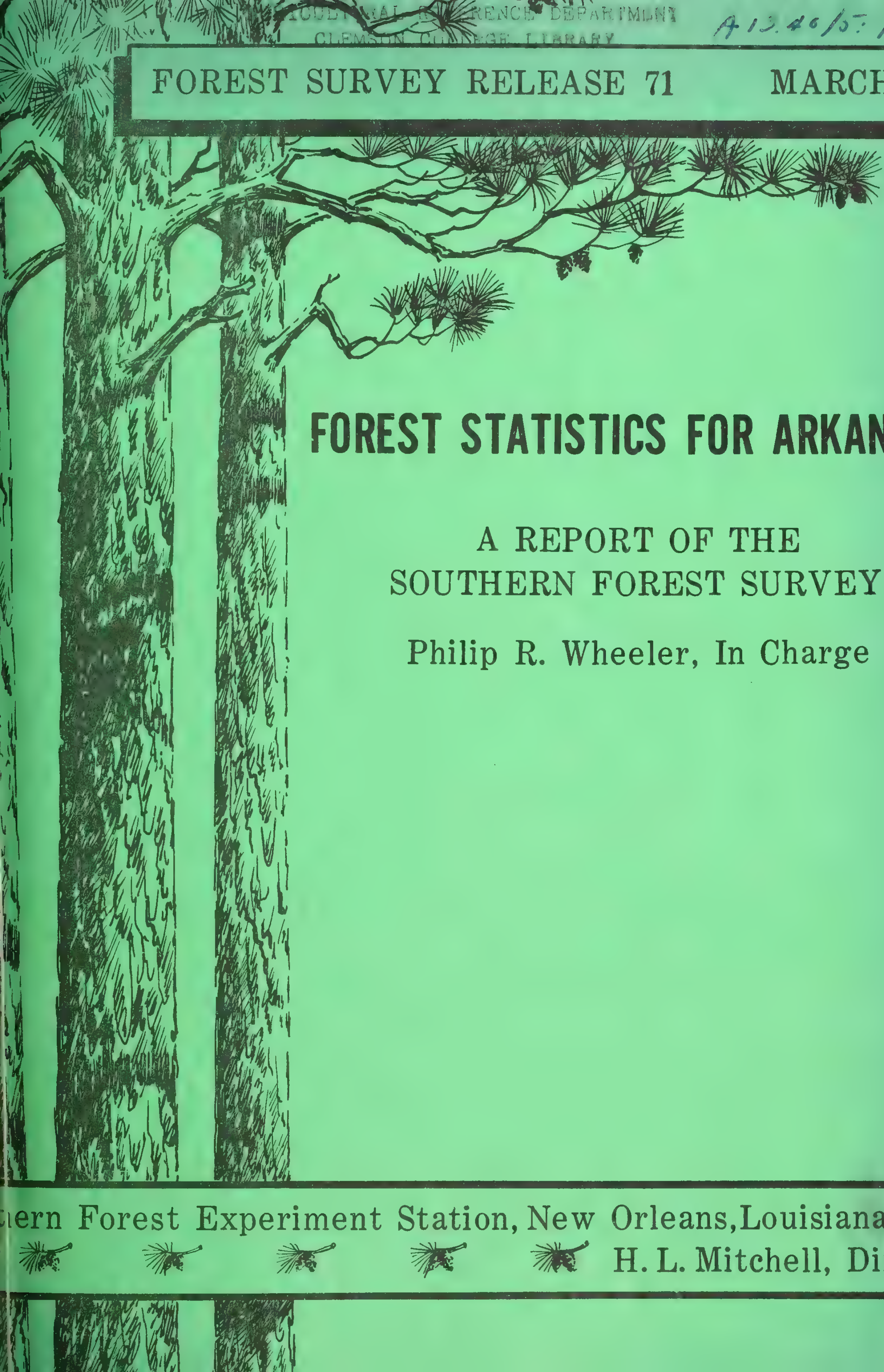

# FOREST STATISTICS FOR ARKANSAS

A REPORT OF THE
SOUTHERN FOREST SURVEY

Philip R. Wheeler, In Charge

ern Forest Experiment Station, New Orleans,Louisiana
H. L. Mitchell, Director

# THE SOUTHERN FOREST SURVEY

The Southern Forest Survey, an activity of the Southern Forest Experiment Station, covers the seven States of the Station's territory--Alabama, Arkansas, Louisiana, Mississippi, Oklahoma, Tennessee, and Texas. This Survey is a part of the nation-wide Forest Survey authorized by the McSweeney-McNary Forest Research Act of 1928. Its five-fold purpose is (1) to take inventory of the supply of standing timber and other forest products; (2) to ascertain the rate at which this supply is being increased through growth; (3) to determine the rate at which this supply is being diminished through use, and by fire, insects, disease, and other destructive agencies; (4) to estimate the present requirements and the probable future trend in the requirements for timber and other forest products; and (5) to correlate these findings with existing and anticipated economic conditions, in order that policies may be formulated for the effective use of lands suitable for forest production.

The present Forest Survey of Arkansas is the second to be made in two-thirds of the State, and the first in the Ozark region. The initial Survey, other than in the Ozarks, was made between 1934 and 1936. In its 1945 national Reappraisal of the forest situation, the Forest Service also gave statewide estimates of forest area, timber volume, growth, and drain. Because of differences in standards and procedures, however, the estimates of the Reappraisal are not directly comparable with results of the Forest Survey.

The Forest Survey was made in cooperation with the Arkansas State Forestry and Parks Commission.

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# FOREST STATISTICS FOR ARKANSAS

This report summarizes the data on forest land area, timber volume, growth, and drain[1] collected by the Southern Forest Survey in Arkansas in 1947-1951.[2] The State, with the exception of the Ozark survey region (fig. 1), was previously surveyed during the period 1934-1936.[3] Comparisons between the findings of the two surveys are presented on pages 9 to 12.

A comprehensive analysis of Arkansas' forest resources and timber industries will be published later.

## The Forest Resource

### Almost three-fifths of the State in forest

Arkansas has a land area of 33.7 million acres. Fifty-seven percent, or 19.4 million acres, is in forest. Virtually all the forest land is capable of producing commercial timber, and less than 20,000 acres is withdrawn from this use.

The proportion of forested land varies from 37 to 71 percent among the Survey regions (table 1). It is highest in the rolling Southwest, which has large areas of low agricultural productivity. Widespread clearing of the rich alluvium of the Delta has left this region the least forested. The Ouachita Mountains, too rough in many sections for

Table 1.--Forest-land area by Survey region, 1948-51

| Survey region | Forest land | Proportion of total land forested |
|---|---|---|
| | Thousand acres | Percent |
| Southwest | 6,339.2 | 71 |
| Ouachita | 3,392.9 | 70 |
| Ozark | 6,134.5 | 58 |
| Delta | 3,497.7 | 37 |
| State | 19,364.3 | 57 |

---

[1] Technical terms used in this report are defined on pages 37-42.

[2] Forest statistics for the Ozark and Southwest Arkansas regions are also available in Forest Survey Releases 57 and 65 respectively.

[3] Survey dates by region were: Southwest, 1936 and 1949; Ouachita, 1936 and 1951; Delta, 1935 and 1950; Ozarks, 1948.

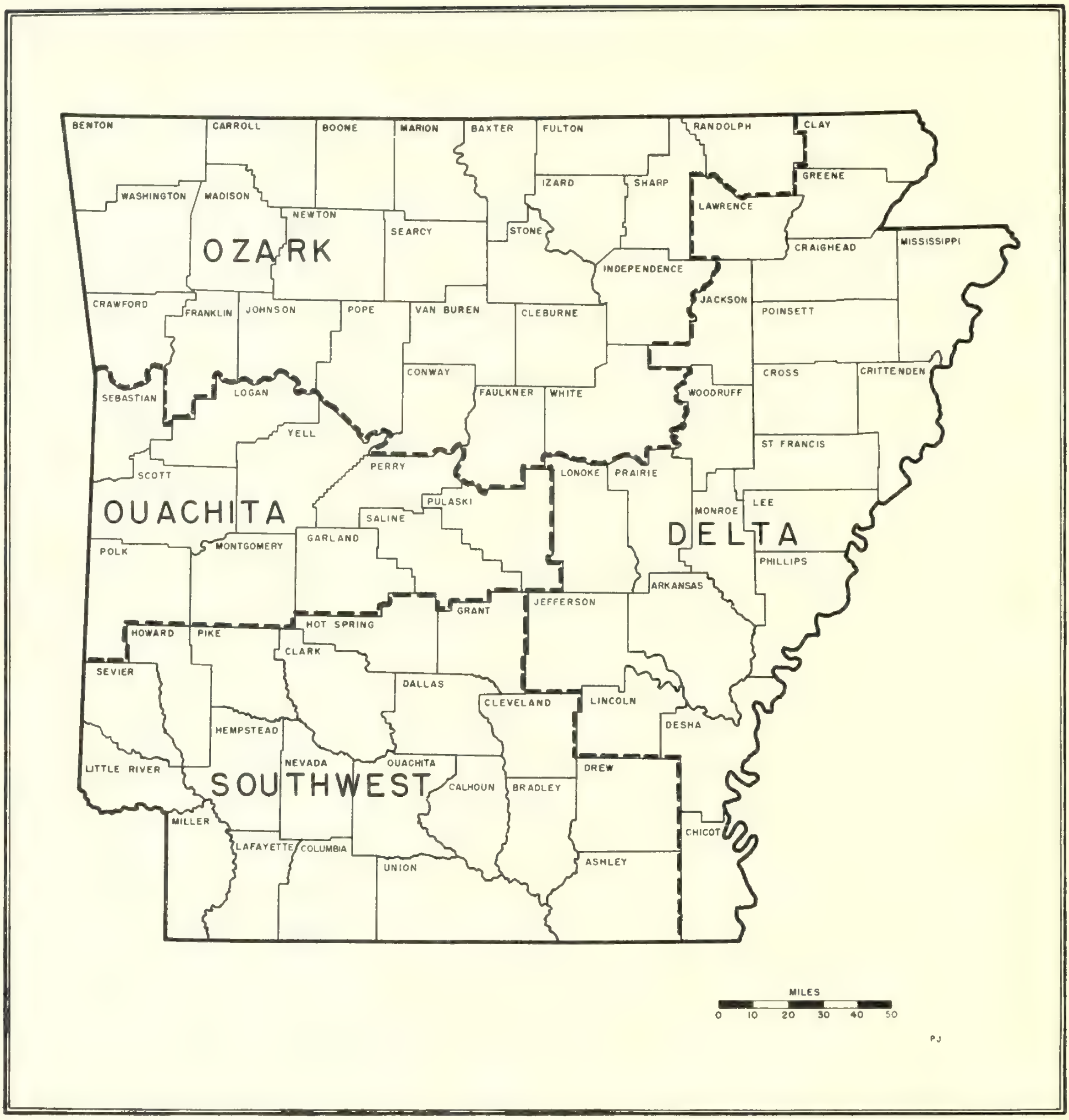

Figure 1.— Forest Survey regions in Arkansas.

agriculture, remain 70 percent forested. The Ozarks, with both rugged mountains and fertile plateaus, are 58 percent forest land.

Eighty-five percent of the commercial forest land in Arkansas is held by private owners. Federal and county governments own almost all the remainder. State ownership is negligible

## Hardwood types most extensive

Three-fifths of the forest acreage is in hardwood types (fig. 2). Bottomland hardwoods and cypress prevail in the Delta and extend along the rivers of the Southwest. The Ozark forests run heavily to upland oak, hickory, and gum. Softwood types predominate in the Southwest and Ouachita regions. Shortleaf and loblolly pines are the principal softwood species, with shortleaf pine predominant in the Ouachita and Ozark Mountains.

## Two-thirds of stands below saw-timber size

Pole-timber stands cover almost one-half the forest acreage of the State (fig. 3). Smaller stand sizes occupy an additional 17 percent of the total forest area. Only one-third is in stands of saw-timber size--i. e., containing 1,500 board feet or more per acre. The disproportion of small trees is especially prevalent in the Ozarks and in the upland hardwood types throughout the State Over one-half the loblolly-shortleaf type, however, is in saw-timber stands and nearly one-half the bottomland hardwoods. The Southwest region has 49 percent of its forest area in saw timber, and the Delta 43 percent. Only 30 percent of the Ouachita Mountain forests are in saw timber, while the Ozarks trail with 17 percent

## Half the forest well stocked

Fifty-two percent (fig. 4) of the forest area is well stocked, in the sense that it contains at least 70 percent of the number of good trees (including well-established seedlings) required for full stocking. Thirty-eight percent of the forest is medium stocked--40 to 69 percent of full stocking. Nine percent is poorly (10 to 39 percent) stocked. Only 1 percent is nonstocked. Stocking is best in the Ouachitas and Southwest, poorest in the Ozarks.

Of the major forest types, the loblolly-shortleaf pine type is the best stocked, upland hardwoods the poorest. In all forest types, fully effective utilization of the growing space is hampered by the presence of large numbers of cull trees, principally hardwoods Almost one-

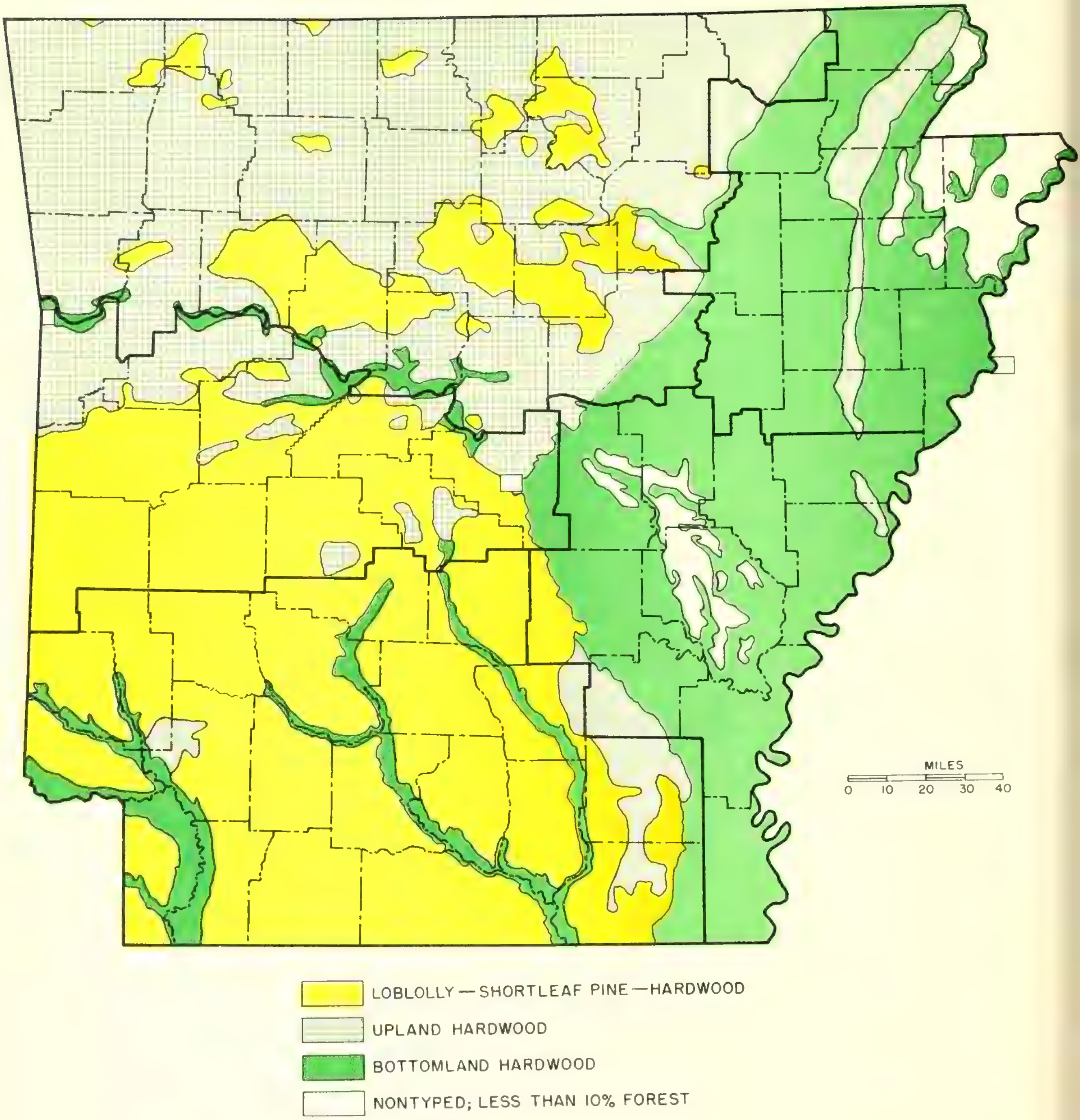
MILES
0 10 20 30 40
LOBLOLLY—SHORTLEAF PINE—HARDWOOD
UPLAND HARDWOOD
BOTTOMLAND HARDWOOD
NONTYPED; LESS THAN 10% FOREST

Figure 2.--Generalized forest types in Arkansas.

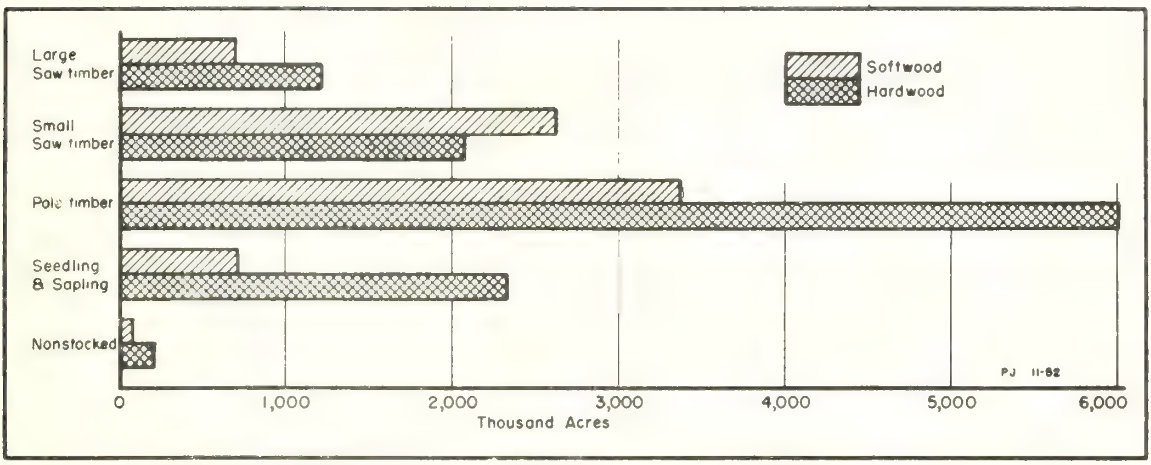

Figure 3.--Forest area by stand size and forest type group, 1948-51.

fourth of the total basal area (which includes all good trees 2 inches d.b.h. and larger and cull trees 5 inches d.b.h. and larger) is in culls. The Ozark region, which has the highest proportion of upland hardwoods and is poorest from the standpoint of stocking, also has the highest proportion of basal area in cull trees--one-third. Similarly, the better stocking and higher proportion of pine in the Ouachitas is reflected in the lower proportion--15 percent--of basal area in cull trees.

Growing stock volume nearly 10 billion cubic feet

The volume of growing stock is 9.8 billion cubic feet, an average of 507 cubic feet or 7 cords per acre. Hardwoods total 5.7 billion, softwoods 4.1 billion cubic feet (fig. 5).

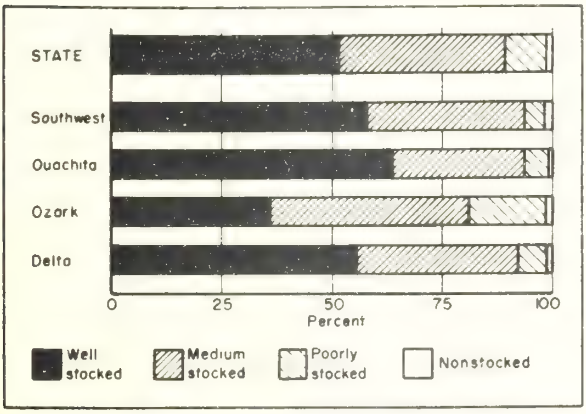

Figure 4.--Degree of stocking by Survey region, 1948-51.

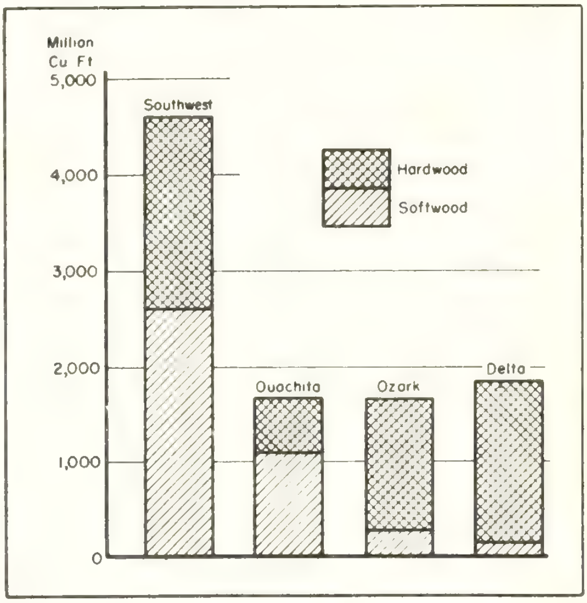

Figure 5.--Growing stock by Survey region, 1948-51.

Hardwoods make up 92 percent of the total volume in the Delta, 83 percent in the Ozarks, 44 percent in the Southwest, and 35 percent in the Ouachita Mountains. Three-fourths of the pine volume and 56 percent of the hardwood volume is in saw-timber trees (fig. 6). In addition to the growing-stock volume there is 3.0 billion cubic feet of sound wood in cull trees and 2.0 billion cubic feet in the tops and limbs of saw-timber size hardwoods.

## Saw-timber volume 37 billion board feet

Arkansas' forests contain 36.8 billion board feet of saw timber, half of it in the Southwest region (fig. 7). Twenty billion board feet, or a little more than 1/2 of the saw-timber volume, is hardwood.

Saw-timber volume per acre averages about 1,900 board feet in the State. The Southwest region averages almost 2,900 board feet, the Delta nearly 2,100, the Ouachita more than 1,700, and the Ozark less than 900. Softwood types average nearly 2,600 board feet to the acre, bottomland hardwood over 2,300, upland hardwood nearly 900, and upland hardwood-pine almost 1,100. Red and white oaks together make up 54 percent of the hardwood volume (fig. 8); sweetgum, black, and tupelo gum 19 percent; hickories 6 percent; and

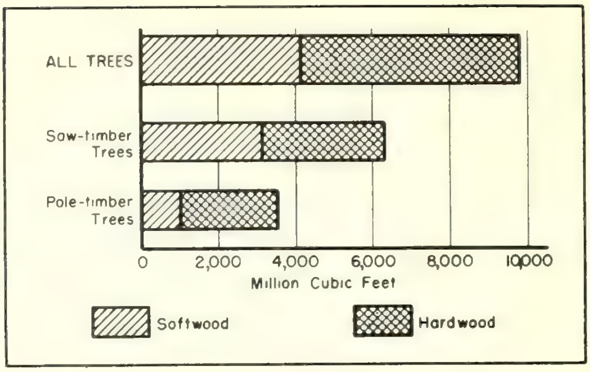

Figure 6.--Growing stock volume in pole-timber and saw-timber trees, 1948-51.

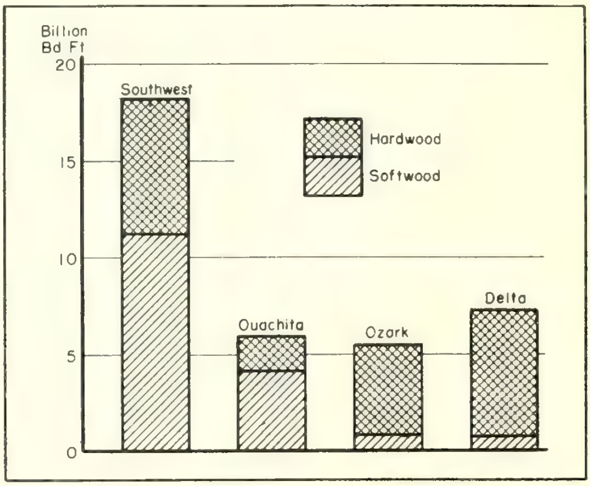

Figure 7.--Saw-timber volume by Survey region, 1948-51.

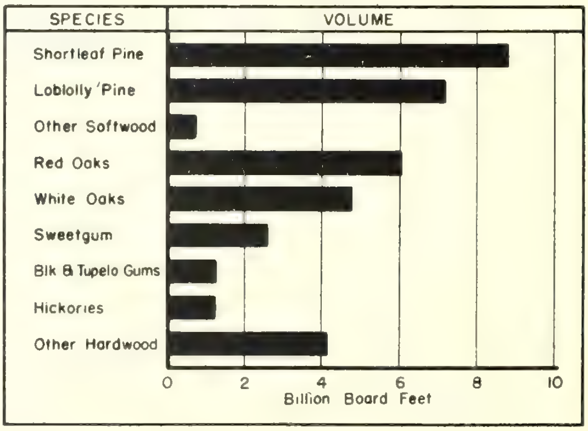

Figure 8.--Saw-timber volume by species, 1948-51.

other hardwoods 21 percent. Shortleaf pine accounts for 53 percent of the softwood volume, loblolly pine for 43 percent, cypress and cedar together for 4 percent.

## Large trees of good quality

Trees 20 inches d. b. h. and larger make up about one-quarter of the total hardwood saw-timber volume; about 55 percent is in trees 14 to 18 inches d. b. h.; and only one-fifth is in 12-inch trees (table 2). Of the softwood saw-timber volume, three-fifths is in trees 14 inches d. b. h. and larger (about one-tenth is in 20-inch and larger trees), and two-fifths is in 10- and 12-inch trees.

Table 2.--Saw-timber volume by softwood tree grade, hardwood log grade, and tree diameter, 1948-51

| Species group and d. b. h. class (inches) | All grades | Grade 1 | Grade 2 | Grade 3 |
|---|---|---|---|---|
| | - - - - - - - Million board feet - - - - - - - | | | |
| Softwood: | | | | |
| 10 to 12 | 7,184.7 | 640.0 | 1,498.4 | 5,046.3 |
| 14 to 18 | 7,799.1 | 1,948.9 | 2,470.2 | 3,380.0 |
| 20 and up | 1,791.6 | 700.0 | 503.1 | 588.5 |
| Total | 16,775.4 | 3,288.9 | 4,471.7 | 9,014.8 |
| Hardwood: | | | | |
| 12 | 4,042.8 | ... | 2.3 | 4,040.5 |
| 14 to 18 | 10,726.0 | 52.3 | 1,872.7 | 8,801.0 |
| 20 and up | 5,254.4 | 1,435.7 | 1,896.7 | 1,922.0 |
| | 20,023.2 | 1,488.0 | 3,771.7 | 14,763.5 |
| All classes | 36,798.6 | 4,776.9 | 8,243.4 | 23,778.3 |

Quality is closely related to tree size. In hardwood trees 20 inches d. b. h. and larger, more than three-fifths of the volume is in grades 1 and 2--that is, logs that yield, on the average, at least 65 and 40 percent respectively of their net volume in No. 1 Common and better grades of lumber. In 14- to 18-inch trees less than one-fifth of the volume is of grade 1 or 2 quality. The 12-inch class is entirely grade 3, which yields, on the average, less than 40 percent No. 1 Common and better. A breakdown of grade-3 hardwood material according to its suitability for factory lumber or ties and construction lumber is given in table 25.

In softwood saw-timber trees 20 inches and larger, 67 percent of the volume is in grade 1 and 2 trees. (Grade 1 and 2 softwood trees have at least 12 feet of clear bole and 25 percent of the merchantable length clear of limbs and knots in sections not less than 8 feet in length.) In 14- to 18-inch trees, 57 percent of the volume is in grade 1 and 2 trees. In the 10- to 12-inch group, only 30 percent of the volume is in these two grades.

One-third of all grade-3 material is in fair or better stands--that is, stands with at least four grade-2 hardwood logs or softwood trees per acre.

Stands of fair or better quality make up less than half the saw-timber acreage.

## Annual net growth, 549 million cubic feet; saw-timber growth almost 2.2 billion board feet

Current net annual growth is estimated at 549 million cubic feet for growing stock, and 2,181 million board feet for saw timber alone (table 26). Statewide, slightly more than one-half of the saw-timber growth is on softwoods. In terms of all growing stock, however, softwood growth does not quite equal hardwood growth. Softwood growth is concentrated on trees of saw-timber size, while more than two-fifths of the hardwood growth is on pole-timber trees.

Net annual growth per acre of growing stock averages 28 cubic feet, ranging from 14 in the Ozarks to 44 in the Southwest. The net annual growth of saw timber averages 113 board feet per acre. In stands of saw-timber size, growth averages 282 board feet per acre in softwood types and 165 board feet per acre in hardwood types.

## Total 1948 drain, 411 million cubic feet; saw-timber drain just over 2 billion board feet

In 1948, cutting for industrial and domestic use removed an estimated 411 million cubic feet from the growing stock. Of this, sawlogs made up 63 percent; fuel wood 13 percent; pulpwood 10 percent, other products 14 percent (fig. 9). Softwoods comprised 57 percent of the total drain. Sawlogs and pulpwood accounted for 92 percent of the softwood drain, but for less than one-half of the hardwood drain. One-quarter of the hardwood drain resulted from fuel-wood cutting. Arkansas' timber stands also supplied considerable amounts of veneer logs, tight cooperage, handle stock, and pine poles and piling.

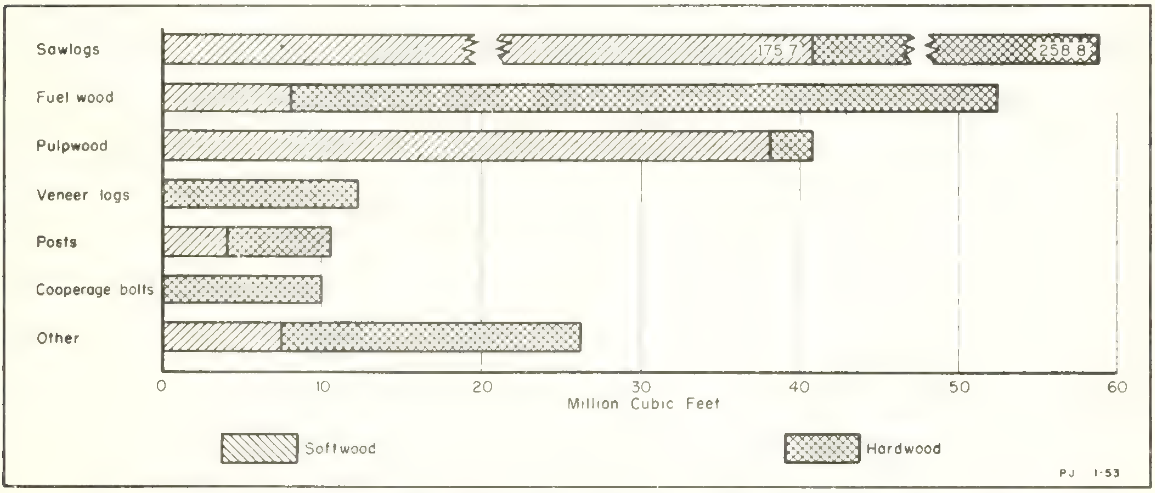

Figure 9. --Drain on growing stock, by commodity, 1948.

The volume of saw timber cut was 2,055 million board feet, divided almost equally between hardwood and softwood. Saw-timber drain by commodity was similar to that of the total drain, except that sawlogsaccounted for 71 percent of the saw-timber drain and pulpwood but 3 percent.

Arkansas' primary forest industries include some 1,700 sawmills, 2 pulp mills, and 162 non-lumber establishments manufacturing handles, cooperage stock, miscellaneous dimension, veneer, and excelsior. In addition, six plants treat wood products with preservatives and one processes chemical wood. While most of the sawmills are small, nearly 100 produced at least 3 million board feet apiece in 1948. There is considerable use of wood for fuel, fence posts, and miscellaneous farm timbers.

## The Changing Forest Resource

The forests of the Southwest, Ouachita, and Delta survey regions, which include more than two-thirds of the forest land in Arkansas, were surveyed in 1934-36 and again in 1949-51.

During the period between surveys, small increases in forest acreage in the uplands were overbalanced by extensive land clearing in the bottomlands. Upland hardwood and pine-hardwood types spread at the expense of pine forest. The loggers' preference for pine reduced the softwood volume, while upland hardwood volume gained. In the bottomlands, where hardwood species prevail, timber volume declines were in general accord with forest acreage reductions due to land clearing. Throughout the resurveyed area the proportion of small trees in the stands increased.

## Southwest provides contrasts in forest practices

The Southwest region contains one of the few large areas in the nation where there has been a sizeable gain in pine volume since the middle 1930's. In the seven-county area east of the Ouachita River, pine saw-timber volume has increased by one-third. In terms of total pine growing stock the increase has been 17 percent. Nearly all this forest acreage is privately owned: it is estimated that almost half is held by large lumber and pulp companies who employ professional foresters to manage their land.

These large volume gains, resulting from conservative timber harvesting, hardwood control, and fire protection, have not been duplicated in the remaining thirteen counties of the Southwest region, where the bulk of the forest is on farms or in other small tracts. While some owners are improving the productivity of their holdings, the cut in many stands has exceeded growth, and pine volume has dropped about one-fourth.

The improvement east of the Ouachita River, while striking, has not been able to reverse trends in the Southwest region as a whole. Region-wide, softwood (mainly pine) decreased in extent and quantity while hardwood increased. Between the 1936 and 1949 surveys the acreage classed as pine forest decreased 9 percent, but pine-hardwood acreage increased 20 percent and upland hardwood acreage rose 35 percent (table 3).

Table 3.--Changes in forest-type acreage in Southwest region, 1936-49

| Forest type | 1936 | 1949 | Change |
|---|---|---|---|
| | Thousand acres | | Percent |
| Loblolly-shortleaf pine | 2,100.1 | 1,903.8 | - 9 |
| Loblolly-shortleaf pine-hardwood | 1,708.8 | 2,052.6 | +20 |
| Bottomland hardwood | 1,358.5 | 1,300.7 | - 4 |
| Upland hardwood types | 803.6 | 1,082.1 | +35 |
| Total commercial forest | 5,971.0 | 6,339.2 | + 6 |

Pine growing-stock volume dropped 8 percent while hardwood increased 4 percent (fig. 10). Heavy increases in small trees brought about the change in hardwood volume. In saw-timber size growing stock, softwood and hardwood both declined--4 percent and 1 percent respectively. Forest acreage increased 6 percent, mainly because of farm land abandonment.

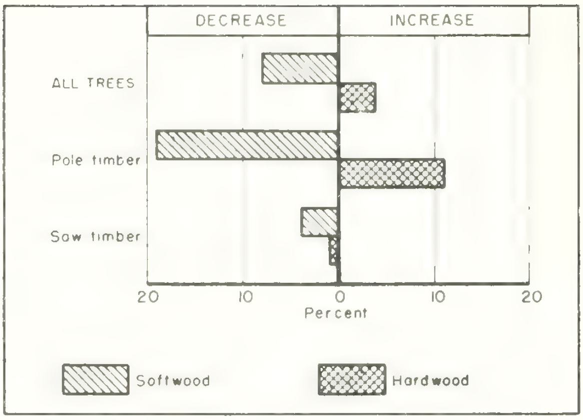

Figure 10. --Changes in growing stock volume in Southwest region, 1936 to 1949.

## Ouachita hardwoods increase

In the Ouachita region, forest acreage increased 3 percent between 1936 and 1951. During this period the area in the pine type dropped 16 percent (table 4). Many acres previously in pine are now of the mixed pine-hardwood type, which increased 40 percent.

Table 4. --Changes in forest-type acreage in Ouachita region, 1936 to 1951

| Forest type | 1936 | 1951 | Change |
|---|---|---|---|
| | Thousand acres | | Percent |
| Loblolly-shortleaf pine | 1,535.2 | 1,292.3 | -16 |
| Loblolly-shortleaf pine-hardwood | 796.6 | 1,115.2 | +40 |
| Hardwood types | 972.3 | 984.0 | + 1 |
| Total commercial forest | 3,304.1 | 3,391.5 | + 3 |

The effects of heavy pine cutting and vigorous hardwood growth are also apparent in volume changes (fig. 11). Hardwood growing stock increased 15 percent; softwoods declined 4. In saw-timber size growing stock, hardwood increased 6 percent while softwood dropped 10. For all species combined, growing-stock volume was up 2 percent; saw timber down 6 percent. Larger trees have borne the brunt of the cutting for softwood sawlogs. In 1936, seven-

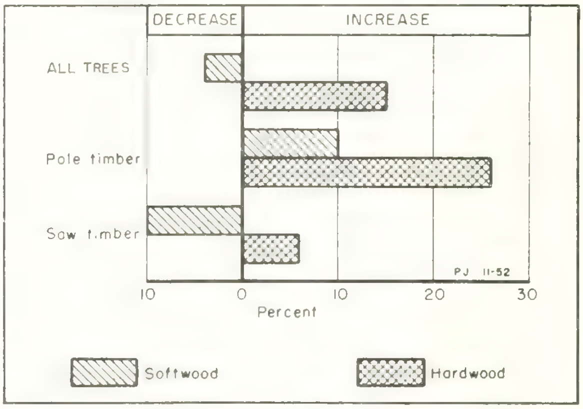

Figure 11. --Changes in growing-stock volume in Ouachita region, 1936 to 1951.

teen percent of the softwood saw-timber volume was contained in trees 20 inches in d.b.h. and larger. By 1951 less than 8 percent of the volume was in trees of this size.

### Delta forests shrink

During the period 1935 to 1950, the forests of the Delta region declined 16 percent in growing-stock volume and 22 percent in saw-timber volume. These changes in volume closely paralleled a 19-percent decrease in forest land acreage. Land clearing, which was primarily responsible for this decline in forest acreage, was concentrated in the alluvial bottoms, the bottomland hardwood acreage declining one-fourth.

While the total timber volume is considerably less than in 1935, the stocking has changed but slightly. On a per-acre basis, the volume of total growing stock increased 4 percent and saw-timber volume decreased 4 percent.

Because large trees have been cut most heavily, the proportion of smaller trees has risen. In terms of volume, the decline in trees 20 inches in d.b.h. and larger was almost twice as great as the decline for all saw timber.

## Accuracy of the Survey

The estimates of forest acreage and timber volume are based upon a systematic sampling method involving a forest-nonforest classification on aerial photographs and on-the-ground measurement of quarter-acre sample plots. In the Delta and Ozark regions, pairs of plots were located every 3 miles on lines 3 miles apart; in the Southwest and Ouachita regions the average spacing was 4 miles on lines 3 miles apart.

Accuracy of the estimates may be affected by two types of error. The first type stems from the use of a sample to estimate the whole and from variability of the item being sampled. This type is termed sampling error; it is susceptible to a mathematical evaluation of the probability of error. The second type of error derives from human mistakes in measurement, judgment, arithmetic, or recording, and from limitations of method or equipment. Effects of this second type of error--often referred to as reporting and estimating error--cannot be appraised mathematically, but the Forest Survey constantly attempts to hold such errors to a minimum by proper training and good supervision, and by emphasis on careful work.

Statistical analysis of the data, using random-sampling formulas, indicates a sampling error of 0.4 percent for the State estimate of total forest area, 1.7 percent for total cubic-foot volume, and 2.1 percent for total board-foot volume. However, because a systematic sample is generally more efficient than a random sample of the same size, these estimates of sampling error may be considered as setting an upper limit of error, rather than as expressing the actual probability of error.

As the acreage and volumes for the State are broken down by Survey region, county, forest type, species, and other subdivisions of the data, the possibility of error increases and is greatest for the smallest items. The order of this increase is suggested in the following tabulation, which shows the sampling error to which the estimates may be liable on a probability of two chances out of three.

| Forest area | | Cubic volume | | Board-foot volume | |
|---|---|---|---|---|---|
| Size of area sampled | Maximum sampling error | Volume sampled | Maximum sampling error | Volume sampled | Maximum sampling error |
| M acres | Percent | Million cu. ft. | Percent | Million bd. ft. | Percent |
| 19,000 | 0.4 | 9,500 | 1.7 | 36,500 | 2.1 |
| 10,000 | .6 | 5,000 | 2.4 | 20,000 | 2.9 |
| 5,000 | .8 | 2,500 | 3.4 | 10,000 | 4.0 |
| 2,000 | 1.2 | 1,000 | 5.3 | 4,000 | 6.4 |
| 500 | 2.5 | 300 | 9.7 | 1,000 | 12.7 |
| 50 | 7.9 | 30 | 30.7 | 100 | 40.3 |

Growth estimates are based on radial-growth measurements and mortality data taken on the sample plots. No attempt was made to calculate sampling error in these estimates.

Drain estimates are conversions of production estimates. Lumber production was estimated from a survey conducted by the U. S. Bureau of Census. For other commodities a canvass of manufacturers was conducted by the Forest Service. Commercial log and bolt production, other than for lumber, was obtained by a 100-percent canvass of establishments or producers. Production of fuel wood and fence posts, and for miscellaneous domestic use of farms, was estimated from an area sample. The data on production of each commodity were converted to drain upon growing stock by using drain-to-production ratios derived from measurements taken on sample cutting areas. The sampling errors to which the State cubic-foot drain estimates are liable, on a probability of two chances out of three, are found in the following tabulation.

| Commodity | Sampling error of cubic-foot drain |
|---|---|
| | Percent error |
| Sawlogs | 2.9 |
| Veneer logs | 8.4 |
| Cooperage bolts | 11.6 |
| Pulpwood | 2.3 |
| Fuel wood | 22.0 |
| Chemical wood | 4.1 |
| Poles and piling | 2.4 |
| Posts | 10.7 |
| Hewn ties | 8.4 |
| Round mine timbers | 1.3 |
| Misc. logs and bolts | 8.8 |
| All commodities | 3.4 |

Table 5.--Forest and nonforest land area by Survey region, 1948-51

| Class of land | State | Southwest | Ouachita | Ozark | Delta |
|---|---|---|---|---|---|
| | Thousand acres | | | | |
| Forest: | | | | | |
| Commercial | 19,341.8 | 6,339.2 | 3,391.5 | 6,113.7 | 3,497.4 |
| Noncommercial: | | | | | |
| Reserved | 19.8 | ... | 1.4 | 18.1 | .3 |
| Unproductive | 2.7 | ... | ... | 2.7 | ... |
| Total | 19,364.3 | 6,339.2 | 3,392.9 | 6,134.5 | 3,497.7 |
| Nonforest[1] | 14,379.7 | 2,535.1 | 1,433.3 | 4,526.0 | 5,885.3 |
| Total, all classes | 33,744.0 | 8,874.3 | 4,826.2 | 10,660.5 | 9,383.0 |

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1/ Includes some acres of water according to Survey standards of area classification but defined by the Bureau of Census as land.

Table 6.--Forest land by class of ownership, 1948-51

| Class of ownership | Commercial forest | |
|---|---|---|
| | Thousand acres | Percent |
| Private: | | |
| Farm[1] | 5,549.1 | 28.7 |
| Other | 10,877.1 | 56.2 |
| Total private | 16,426.2 | 84.9 |
| Public: | | |
| National forests | 2,292.2 | 11.8 |
| Soil Conservation Service | 70.1 | .4 |
| Fish and Wildlife Service | 107.0 | .6 |
| Public domain | 130.4 | .7 |
| Other federal | 213.5 | 1.1 |
| State | 4.1 | (2/) |
| County | 98.3 | .5 |
| Total public | 2,915.6 | 15.1 |
| All ownership | 19,341.8 | 100.0 |

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1/ Based on 1945 Census of Agriculture.

2/ Negligible.

Table 7. --Land area and commercial forest area by county, 1948-51 1/

| County | All land | Commercial forest | |
|---|---|---|---|
| | Thousand acres | Thousand acres | Percent |
| Arkansas | 662. 4 | 270. 7 | 40. 9 |
| Ashley | 597. 2 | 430. 1 | 72. 0 |
| Baxter | 365. 4 | 256. 8 | 70. 3 |
| Benton | 567. 0 | 254. 6 | 44. 9 |
| Boone | 385. 3 | 206. 6 | 53. 6 |
| Bradley | 415. 4 | 329. 8 | 79. 4 |
| Calhoun | 401. 9 | 333. 1 | 82. 9 |
| Carroll | 405. 8 | 236. 6 | 58. 3 |
| Chicot | 414. 1 | 193. 8 | 46. 8 |
| Clark | 562. 0 | 400. 9 | 71. 3 |
| Clay | 416. 0 | 201. 9 | 48. 5 |
| Cleburne | 380. 8 | 230. 3 | 60. 5 |
| Cleveland | 384. 6 | 279. 4 | 72. 6 |
| Columbia | 491. 5 | 308. 5 | 62. 8 |
| Conway | 358. 4 | 147. 1 | 41. 0 |
| Craighead | 458. 9 | 113. 8 | 24. 8 |
| Crawford | 382. 7 | 193. 7 | 50. 6 |
| Crittenden | 398. 7 | 81. 7 | 20. 5 |
| Cross | 400. 6 | 157. 9 | 39. 4 |
| Dallas | 430. 1 | 355. 0 | 82. 5 |
| Desha | 496. 6 | 244. 5 | 49. 2 |
| Drew | 535. 0 | 385. 0 | 72. 0 |
| Faulkner | 419. 8 | 165. 7 | 39. 5 |
| Franklin | 393. 6 | 178. 2 | 45. 3 |
| Fulton | 391. 0 | 239. 6 | 61. 3 |
| Garland | 461. 4 | 367. 5 | 79. 6 |
| Grant | 403. 8 | 325. 3 | 80. 6 |
| Greene | 370. 6 | 119. 4 | 32. 2 |
| Hempstead | 470. 4 | 261. 0 | 55. 5 |
| Hot Spring | 397. 4 | 306. 8 | 77. 2 |
| Howard | 384. 0 | 271. 7 | 70. 8 |
| Independence | 483. 2 | 259. 4 | 53. 7 |
| Izard | 367. 4 | 200. 6 | 54. 6 |
| Jackson | 407. 7 | 146. 0 | 35. 8 |
| Jefferson | 569. 6 | 244. 3 | 42. 9 |
| Johnson | 432. 6 | 234. 7 | 54. 3 |
| Lafayette | 343. 7 | 235. 8 | 68. 6 |
| Lawrence | 378. 9 | 136. 1 | 35. 9 |
| Lee | 396. 8 | 157. 2 | 39. 6 |
| Lincoln | 361. 6 | 165. 1 | 45. 7 |
| Little River | 348. 2 | 229. 6 | 65. 9 |
| Logan | 465. 3 | 261. 6 | 56. 2 |
| Lonoke | 512. 0 | 179. 9 | 35. 1 |
| Madison | 532. 5 | 354. 9 | 66. 6 |
| Marion | 401. 9 | 273. 1 | 68. 0 |
| Miller | 401. 3 | 251. 3 | 62. 6 |
| Mississippi | 588. 1 | 73. 2 | 12. 4 |
| Monroe | 394. 9 | 214. 2 | 54. 2 |
| Montgomery | 512. 6 | 423. 2 | 82. 6 |
| Nevada | 394. 2 | 232. 4 | 59. 0 |
| Newton | 526. 1 | 400. 8 | 76. 2 |
| Ouachita | 472. 3 | 344. 1 | 72. 9 |
| Perry | 355. 8 | 273. 1 | 76. 8 |
| Phillips | 450. 5 | 168. 2 | 37. 3 |
| Pike | 393. 6 | 305. 6 | 77. 6 |
| Poinsett | 487. 7 | 171. 7 | 35. 2 |
| Polk | 550. 4 | 444. 0 | 80. 7 |
| Pope | 522. 2 | 306. 7 | 58. 7 |
| Prairie | 431. 4 | 183. 0 | 42. 4 |
| Pulaski | 499. 8 | 284. 6 | 56. 9 |
| Randolph | 407. 7 | 208. 5 | 51. 1 |
| St. Francis | 407. 0 | 118. 8 | 29. 2 |
| Saline | 464. 6 | 369. 9 | 79. 6 |
| Scott | 574. 8 | 444. 2 | 77. 3 |
| Searcy | 425. 0 | 294. 6 | 69. 3 |
| Sebastian | 338. 6 | 144. 6 | 42. 7 |
| Sevier | 374. 4 | 268. 3 | 71. 7 |
| Sharp | 381. 4 | 258. 1 | 67. 7 |
| Stone | 390. 4 | 291. 5 | 74. 7 |
| Union | 673. 3 | 485. 5 | 72. 1 |
| Van Buren | 457. 0 | 300. 9 | 65. 8 |
| Washington | 616. 4 | 308. 4 | 50. 0 |
| White | 666. 9 | 312. 3 | 46. 8 |
| Woodruff | 378. 9 | 156. 0 | 41. 2 |
| Yell | 602. 9 | 378. 8 | 62. 8 |
| All counties | 33, 744. 0 | 19, 341. 8 | 57. 3 |

1/ County data on saw-timber volume and growing stock, suitable for combining into county groups, are available as a supplement to this release.

Table 8.--Commercial forest land by stand size and forest type, by Survey region, 1948-51

| Forest type | All stand sizes | Large saw timber | Small saw timber | Pole timber | Seedling and sapling | Nonstocked and other areas [1] |
|---|---|---|---|---|---|---|
| | - - - - | - - - - | Thousand acres | - - - - | - - - - | - - - - |
| | | | STATE | | | |
| Softwood types: | | | | | | |
| Loblolly-shortleaf pine | 3,703.3 | 400.1 | 1,613.2 | 1,358.1 | 284.6 | 47.3 |
| Loblolly-shortleaf pine-hardwood | 3,518.5 | 299.1 | 1,016.5 | 1,933.3 | 248.8 | 20.8 |
| Cedar | 281.4 | ... | ... | 86.5 | 184.4 | 10.5 |
| Total | 7,503.2 | 699.2 | 2,629.7 | 3,377.9 | 717.8 | 78.6 |
| Hardwood types: | | | | | | |
| Bottomland hardwood | 4,397.0 | 843.1 | 1,291.4 | 1,729.8 | 462.4 | 70.3 |
| Upland hardwood | 5,145.1 | 256.5 | 562.1 | 2,790.6 | 1,437.3 | 98.6 |
| Upland hardwood-pine | 2,296.5 | 117.1 | 221.8 | 1,490.3 | 432.9 | 34.4 |
| Total | 11,838.6 | 1,216.7 | 2,075.3 | 6,010.7 | 2,332.6 | 203.3 |
| All types | 19,341.8 | 1,915.9 | 4,705.0 | 9,388.6 | 3,050.4 | 281.9 |
| | | | SOUTHWEST | | | |
| Softwood types: | | | | | | |
| Loblolly-shortleaf pine | 1,903.8 | 244.7 | 1,010.9 | 454.0 | 160.0 | 34.2 |
| Loblolly-shortleaf pine-hardwood | 2,052.6 | 222.1 | 779.3 | 913.6 | 123.5 | 14.1 |
| Total | 3,956.4 | 466.8 | 1,790.2 | 1,367.6 | 283.5 | 48.3 |
| Hardwood types: | | | | | | |
| Bottomland hardwood | 1,300.7 | 243.7 | 365.0 | 531.7 | 131.2 | 29.1 |
| Upland hardwood | 138.2 | 13.9 | 31.1 | 79.7 | 6.8 | 6.7 |
| Upland hardwood-pine | 943.9 | 60.3 | 116.0 | 622.8 | 118.2 | 26.6 |
| Total | 2,382.8 | 317.9 | 512.1 | 1,234.2 | 256.2 | 62.4 |
| All types | 6,339.2 | 784.7 | 2,302.3 | 2,601.8 | 539.7 | 110.7 |
| | | | OUACHITA | | | |
| Softwood types: | | | | | | |
| Loblolly-shortleaf pine | 1,292.3 | 140.5 | 483.9 | 596.8 | 63.3 | 7.8 |
| Loblolly-shortleaf pine-hardwood | 1,086.9 | 59.1 | 154.1 | 779.6 | 90.2 | 3.9 |
| Cedar | 28.3 | ... | ... | 19.9 | 8.4 | ... |
| Total | 2,407.5 | 199.6 | 638.0 | 1,396.3 | 161.9 | 11.7 |
| Hardwood types: | | | | | | |
| Bottomland hardwood | 172.6 | 36.0 | 48.0 | 79.3 | 9.3 | ... |
| Upland hardwood | 265.0 | 12.0 | 11.3 | 155.8 | 67.5 | 18.4 |
| Upland hardwood-pine | 546.4 | 18.4 | 37.2 | 379.0 | 111.8 | ... |
| Total | 984.0 | 66.4 | 96.5 | 614.1 | 188.6 | 18.4 |
| All types | 3,391.5 | 266.0 | 734.5 | 2,010.4 | 350.5 | 30.1 |
| | | | OZARK | | | |
| Softwood types: | | | | | | |
| Loblolly-shortleaf pine | 468.9 | 14.9 | 98.4 | 291.2 | 59.1 | 5.3 |
| Loblolly-shortleaf pine-hardwood | 271.8 | 15.7 | 50.3 | 185.6 | 20.2 | ... |
| Cedar | 250.3 | ... | ... | 63.8 | 176.0 | 10.5 |
| Total | 991.0 | 30.6 | 148.7 | 540.6 | 255.3 | 15.8 |
| Hardwood types: | | | | | | |
| Bottomland hardwood | 321.6 | 56.2 | 76.7 | 133.2 | 46.7 | 8.8 |
| Upland hardwood | 4,094.8 | 202.5 | 417.5 | 2,100.7 | 1,311.1 | 63.0 |
| Upland hardwood-pine | 706.3 | 38.4 | 55.5 | 414.6 | 190.0 | 7.8 |
| Total | 5,122.7 | 297.1 | 549.7 | 2,648.5 | 1,547.8 | 79.6 |
| All types | 6,113.7 | 327.7 | 698.4 | 3,189.1 | 1,803.1 | 95.4 |
| | | | DELTA | | | |
| Softwood types: | | | | | | |
| Loblolly-shortleaf pine | 38.3 | ... | 20.0 | 16.1 | 2.2 | ... |
| Loblolly-shortleaf pine-hardwood | 107.2 | 2.2 | 32.8 | 54.5 | 14.9 | 2.8 |
| Cedar | 2.8 | ... | ... | 2.8 | ... | ... |
| Total | 148.3 | 2.2 | 52.8 | 73.4 | 17.1 | 2.8 |
| Hardwood types: | | | | | | |
| Bottomland hardwood | 2,602.1 | 507.2 | 801.7 | 985.6 | 275.2 | 32.4 |
| Upland hardwood | 647.1 | 28.1 | 102.2 | 454.4 | 51.9 | 10.5 |
| Upland hardwood-pine | 99.9 | ... | 13.1 | 73.9 | 12.9 | ... |
| Total | 3,349.1 | 535.3 | 917.0 | 1,513.9 | 340.0 | 42.9 |
| All types | 3,497.4 | 537.5 | 969.8 | 1,587.3 | 357.1 | 45.7 |

[1] Includes areas not classified elsewhere.

Table 9. —Commercial forest land by degree of tree stocking and forest type, by Survey region, 1948-51

| Forest type | All stocking | Well stocked | Medium stocked | Poorly stocked | Non-stocked |
|---|---|---|---|---|---|
| | Thousand acres | | | | |
| STATE | | | | | |
| Softwood types: | | | | | |
| Loblolly-shortleaf pine | 3,703.3 | 2,717.5 | 788.1 | 150.4 | 47.3 |
| Loblolly-shortleaf pine-hardwood | 3,518.5 | 2,144.9 | 1,212.7 | 140.1 | 20.8 |
| Cedar | 281.4 | 49.4 | 153.9 | 67.6 | 10.5 |
| Total | 7,503.2 | 4,911.8 | 2,154.7 | 358.1 | 78.6 |
| Hardwood types: | | | | | |
| Bottomland hardwood | 4,397.0 | 2,134.3 | 1,825.7 | 366.7 | 70.3 |
| Upland hardwood | 5,145.1 | 1,905.5 | 2,261.8 | 879.2 | 98.6 |
| Upland hardwood-pine | 2,296.5 | 1,009.0 | 1,065.6 | 187.5 | 34.4 |
| Total | 11,838.6 | 5,048.8 | 5,153.1 | 1,433.4 | 203.3 |
| All types | 19,341.8 | 9,960.6 | 7,307.8 | 1,791.5 | 281.9 |
| SOUTHWEST | | | | | |
| Softwood types: | | | | | |
| Loblolly-shortleaf pine | 1,903.8 | 1,417.8 | 381.2 | 70.6 | 34.2 |
| Loblolly-shortleaf pine-hardwood | 2,052.6 | 1,345.5 | 640.3 | 52.7 | 14.1 |
| Total | 3,956.4 | 2,763.3 | 1,021.5 | 123.3 | 48.3 |
| Hardwood types: | | | | | |
| Bottomland hardwood | 1,300.7 | 484.0 | 675.5 | 112.1 | 29.1 |
| Upland hardwood | 138.2 | 48.5 | 76.1 | 6.9 | 6.7 |
| Upland hardwood-pine | 943.9 | 377.2 | 489.5 | 50.6 | 26.6 |
| Total | 2,382.8 | 909.7 | 1,241.1 | 169.6 | 62.4 |
| All types | 6,339.2 | 3,673.0 | 2,262.6 | 292.9 | 110.7 |
| OUACHITA | | | | | |
| Softwood types: | | | | | |
| Loblolly-shortleaf pine | 1,292.3 | 1,075.5 | 189.5 | 19.5 | 7.8 |
| Loblolly-shortleaf pine-hardwood | 1,086.9 | 640.7 | 406.3 | 36.0 | 3.9 |
| Cedar-hardwood | 28.3 | 7.7 | 12.2 | 8.4 | ... |
| Total | 2,407.5 | 1,723.9 | 608.0 | 63.9 | 11.7 |
| Hardwood types: | | | | | |
| Bottomland hardwood | 172.6 | 86.3 | 73.4 | 12.9 | ... |
| Upland hardwood | 265.0 | 69.6 | 100.4 | 76.6 | 18.4 |
| Upland hardwood-pine | 546.4 | 278.3 | 229.9 | 38.2 | ... |
| Total | 984.0 | 434.2 | 403.7 | 127.7 | 18.4 |
| All types | 3,391.5 | 2,158.1 | 1,011.7 | 191.6 | 30.1 |
| OZARK | | | | | |
| Softwood types: | | | | | |
| Shortleaf pine | 468.9 | 199.8 | 203.5 | 60.3 | 5.3 |
| Shortleaf pine-hardwood | 271.8 | 84.2 | 136.2 | 51.4 | ... |
| Cedar | 250.3 | 41.7 | 138.9 | 59.2 | 10.5 |
| Total | 991.0 | 325.7 | 478.6 | 170.9 | 15.8 |
| Hardwood types: | | | | | |
| Bottomland hardwood | 321.6 | 120.4 | 134.9 | 57.5 | 8.8 |
| Upland hardwood | 4,094.8 | 1,453.5 | 1,830.9 | 747.4 | 63.0 |
| Upland hardwood-pine | 706.3 | 297.2 | 306.2 | 95.1 | 7.8 |
| Total | 5,122.7 | 1,871.1 | 2,272.0 | 900.0 | 79.6 |
| All types | 6,113.7 | 2,196.8 | 2,750.6 | 1,070.9 | 95.4 |
| DELTA | | | | | |
| Softwood types: | | | | | |
| Loblolly-shortleaf pine | 38.3 | 24.4 | 13.9 | ... | ... |
| Loblolly-shortleaf pine-hardwood | 107.2 | 74.5 | 29.9 | ... | 2.8 |
| Cedar | 2.8 | ... | 2.8 | ... | ... |
| Total | 148.3 | 98.9 | 46.6 | ... | 2.8 |
| Hardwood types: | | | | | |
| Bottomland hardwood | 2,602.1 | 1,443.6 | 941.9 | 184.2 | 32.4 |
| Upland hardwood | 647.1 | 333.9 | 254.4 | 48.3 | 10.5 |
| Upland hardwood-pine | 99.9 | 56.3 | 40.0 | 3.6 | ... |
| Total | 3,349.1 | 1,833.8 | 1,236.3 | 236.1 | 42.9 |
| All types | 3,497.4 | 1,932.7 | 1,282.9 | 236.1 | 45.7 |

Table 10.--Area of saw-timber stands by stand quality and forest type, by Survey region, 1948-51

| Forest type | All qualities | Fair or better | Poor |
|---|---|---|---|
| | | Thousand acres | |
| | | STATE | |
| Softwood types: | | | |
| Loblolly-shortleaf pine | 2,013.3 | 1,005.1 | 1,008.2 |
| Loblolly-shortleaf pine-hardwood | 1,315.6 | 576.7 | 738.9 |
| Total | 3,328.9 | 1,581.8 | 1,747.1 |
| Hardwood types: | | | |
| Bottomland hardwood | 2,134.5 | 909.8 | 1,224.7 |
| Upland hardwood | 818.6 | 400.9 | 417.7 |
| Upland hardwood-pine | 338.9 | 131.6 | 207.3 |
| Total | 3,292.0 | 1,442.3 | 1,849.7 |
| All types | 6,620.9 | 3,024.1 | 3,596.8 |
| | | SOUTHWEST | |
| Softwood types: | | | |
| Loblolly-shortleaf pine | 1,255.6 | 626.0 | 629.6 |
| Loblolly-shortleaf pine-hardwood | 1,001.4 | 401.9 | 599.5 |
| Total | 2,257.0 | 1,027.9 | 1,229.1 |
| Hardwood types: | | | |
| Bottomland hardwood | 608.7 | 246.4 | 362.3 |
| Upland hardwood | 45.0 | 20.8 | 24.2 |
| Upland hardwood-pine | 176.3 | 64.2 | 112.1 |
| Total | 830.0 | 331.4 | 498.6 |
| All types | 3,087.0 | 1,359.3 | 1,727.7 |
| | | OUACHITA | |
| Softwood types: | | | |
| Loblolly-shortleaf pine | 624.4 | 309.6 | 314.8 |
| Loblolly-shortleaf pine-hardwood | 213.2 | 122.8 | 90.4 |
| Total | 837.6 | 432.4 | 405.2 |
| Hardwood types: | | | |
| Bottomland hardwood | 84.0 | 29.4 | 54.6 |
| Upland hardwood | 23.3 | 12.0 | 11.3 |
| Upland hardwood-pine | 55.6 | 18.6 | 37.0 |
| Total | 162.9 | 60.0 | 102.9 |
| All types | 1,000.5 | 492.4 | 508.1 |
| | | OZARK | |
| Softwood types: | | | |
| Shortleaf pine | 113.3 | 58.4 | 54.9 |
| Shortleaf pine-hardwood | 66.0 | 47.6 | 18.4 |
| Total | 179.3 | 106.0 | 73.3 |
| Hardwood types: | | | |
| Bottomland hardwood | 132.9 | 68.8 | 64.1 |
| Upland hardwood | 620.0 | 322.6 | 297.4 |
| Upland hardwood-pine | 93.9 | 46.3 | 47.6 |
| Total | 846.8 | 437.7 | 409.1 |
| All types | 1,026.1 | 543.7 | 482.4 |
| | | DELTA | |
| Softwood types: | | | |
| Loblolly-shortleaf pine | 20.0 | 11.1 | 8.9 |
| Loblolly-shortleaf pine-hardwood | 35.0 | 4.4 | 30.6 |
| Total | 55.0 | 15.5 | 39.5 |
| Hardwood types: | | | |
| Bottomland hardwood | 1,308.9 | 565.2 | 743.7 |
| Upland hardwood | 130.3 | 45.5 | 84.8 |
| Upland hardwood-pine | 13.1 | 2.5 | 10.6 |
| Total | 1,452.3 | 613.2 | 839.1 |
| All types | 1,507.3 | 628.7 | 878.6 |

Table 11.--Basal area per acre of growing stock and cull trees by forest-type group and Survey region, 1948-51

| Forest-type group | State | South-west | Ouachita | Ozark | Delta |
|---|---|---|---|---|---|
| | | | Square feet | | |
| Softwoods: | | | | | |
| 2 and 4 inch trees[1] | 15.1 | 13.5 | 18.8 | 12.7 | 13.8 |
| Growing stock | 43.2 | 49.2 | 40.9 | 26.2 | 32.5 |
| Cull trees | 9.2 | 9.1 | 7.5 | 14.0 | 8.7 |
| All trees | 67.5 | 71.8 | 67.2 | 52.9 | 55.0 |
| Bottomland hardwood: | | | | | |
| 2 and 4 inch trees[1] | 7.0 | 6.0 | 9.4 | 6.7 | 7.4 |
| Growing stock | 43.9 | 41.7 | 42.8 | 41.5 | 45.4 |
| Cull trees | 19.7 | 23.2 | 17.2 | 19.4 | 18.1 |
| All trees | 70.6 | 70.9 | 69.4 | 67.6 | 70.9 |
| Upland hardwood: | | | | | |
| 2 and 4 inch trees[1] | 10.9 | 8.7 | 13.3 | 11.4 | 8.8 |
| Growing stock | 26.7 | 34.1 | 27.6 | 23.1 | 37.6 |
| Cull trees | 17.1 | 13.8 | 14.7 | 19.2 | 10.7 |
| All trees | 54.7 | 56.6 | 55.6 | 53.7 | 57.1 |
| All types | | | | | |
| 2 and 4 inch trees[1] | 11.7 | 11.1 | 17.0 | 11.4 | 8.0 |
| Growing stock | 37.0 | 45.1 | 37.8 | 24.5 | 43.2 |
| Cull trees | 14.6 | 12.8 | 9.7 | 18.4 | 16.1 |
| All trees | 63.3 | 69.0 | 64.5 | 54.3 | 67.3 |

[1] Includes only sound, well-formed trees.

Table 12.--Total volume by class of timber and species, by Survey region, 1948-51

| Species | All timber | Growing stock | | | | Upper stems and limbs | Cull trees |
|---|---|---|---|---|---|---|---|
| | | Total growing stock | Saw-timber trees | | Pole-timber trees | | |
| | | | Sawlog portions | Upper stems | | | |
| | Thousand cords | | | | | | |
| | | | STATE | | | | |
| Softwood: | | | | | | | |
| Loblolly pine | 20,944.1 | 20,801.4 | 15,601.3 | 1,790.7 | 3,409.4 | ... | 142.7 |
| Shortleaf pine | 32,182.7 | 31,861.4 | 19,701.4 | 2,460.0 | 9,700.0 | ... | 321.3 |
| Other softwoods | 2,653.3 | 2,305.3 | 1,662.6 | 266.8 | 375.9 | ... | 348.0 |
| Total | 55,780.1 | 54,968.1 | 36,965.3 | 4,517.5 | 13,485.3 | ... | 812.0 |
| Hardwood: | | | | | | | |
| Red oaks | 44,941.8 | 24,429.8 | 14,122.2 | ... | 10,307.6 | 9,065.7 | 11,446.3 |
| White oaks | 39,494.1 | 21,193.9 | 11,335.8 | ... | 9,858.1 | 7,580.7 | 10,719.5 |
| Hickories | 12,002.9 | 7,110.4 | 2,953.7 | ... | 4,156.7 | 1,793.9 | 3,098.6 |
| Sweetgum | 16,568.6 | 11,043.3 | 6,105.9 | ... | 4,937.4 | 3,107.5 | 2,417.8 |
| Black and tupelo gums | 8,804.3 | 4,307.4 | 2,959.7 | ... | 1,347.7 | 1,711.9 | 2,785.0 |
| Other hardwoods | 37,150.9 | 16,677.7 | 9,825.4 | ... | 6,852.3 | 6,097.0 | 14,376.2 |
| Total | 158,962.6 | 84,762.5 | 47,302.7 | ... | 37,459.8 | 29,356.7 | 44,843.4 |
| All species | 214,742.7 | 139,730.6 | 84,268.0 | 4,517.5 | 50,945.1 | 29,356.7 | 45,655.4 |
| | | | SOUTHWEST | | | | |
| Softwood: | | | | | | | |
| Loblolly pine | 20,274.7 | 20,134.7 | 15,146.7 | 1,736.0 | 3,252.0 | ... | 140.0 |
| Shortleaf pine | 14,061.3 | 14,018.6 | 9,218.6 | 1,018.7 | 3,781.3 | ... | 42.7 |
| Other softwoods | 534.7 | 500.0 | 393.3 | 50.7 | 56.0 | ... | 34.7 |
| Total | 34,870.7 | 34,653.3 | 24,758.6 | 2,805.4 | 7,089.3 | ... | 217.4 |
| Hardwood: | | | | | | | |
| Red oaks | 15,511.9 | 8,704.4 | 4,989.5 | ... | 3,714.9 | 2,943.3 | 3,864.2 |
| White oaks | 11,450.7 | 6,880.5 | 3,655.2 | ... | 3,225.3 | 2,340.3 | 2,229.9 |
| Hickories | 3,561.2 | 2,194.0 | 1,173.1 | ... | 1,020.9 | 717.9 | 649.3 |
| Sweetgum | 10,331.3 | 7,016.4 | 3,611.9 | ... | 3,404.5 | 1,765.7 | 1,549.2 |
| Black and tupelo gums | 3,235.8 | 1,688.0 | 1,094.0 | ... | 594.0 | 609.0 | 938.8 |
| Other hardwoods | 8,452.2 | 3,607.5 | 1,803.0 | ... | 1,804.5 | 1,079.1 | 3,765.6 |
| Total | 52,543.1 | 30,090.8 | 16,326.7 | ... | 13,764.1 | 9,455.3 | 12,997.0 |
| All species | 87,413.8 | 64,744.1 | 41,085.3 | 2,805.4 | 20,853.4 | 9,455.3 | 13,214.4 |
| | | | OUACHITA | | | | |
| Softwood: | | | | | | | |
| Loblolly pine | 408.0 | 408.0 | 321.3 | 34.7 | 52.0 | ... | ... |
| Shortleaf pine | 14,060.0 | 13,966.7 | 8,701.4 | 941.3 | 4,324.0 | ... | 93.3 |
| Other softwoods | 178.7 | 170.7 | 62.7 | 14.7 | 93.3 | ... | 8.0 |
| Total | 14,646.7 | 14,545.4 | 9,085.4 | 990.7 | 4,469.3 | ... | 101.3 |
| Hardwood: | | | | | | | |
| Red oaks | 3,813.5 | 2,022.4 | 1,034.3 | ... | 988.1 | 729.9 | 1,061.2 |
| White oaks | 6,591.1 | 3,614.9 | 1,813.4 | ... | 1,801.5 | 1,226.9 | 1,749.3 |
| Hickories | 1,647.8 | 968.7 | 319.4 | ... | 649.3 | 197.0 | 482.1 |
| Sweetgum | 1,415.0 | 886.6 | 523.9 | ... | 362.7 | 298.5 | 229.9 |
| Black and tupelo gums | 985.1 | 449.3 | 326.9 | ... | 122.4 | 195.5 | 340.3 |
| Other hardwoods | 2,229.9 | 825.4 | 337.3 | ... | 488.1 | 216.4 | 1,188.1 |
| Total | 16,682.4 | 8,767.3 | 4,355.2 | ... | 4,412.1 | 2,864.2 | 5,050.9 |
| All species | 31,329.1 | 23,312.7 | 13,440.6 | 990.7 | 8,881.4 | 2,864.2 | 5,152.2 |
| | | | OZARK | | | | |
| Softwood: | | | | | | | |
| Shortleaf pine | 3,748.0 | 3,562.7 | 1,578.7 | 473.3 | 1,510.7 | ... | 185.3 |
| Other softwoods | 388.0 | 257.3 | 81.3 | 24.0 | 152.0 | ... | 130.7 |
| Total | 4,136.0 | 3,820.0 | 1,660.0 | 497.3 | 1,662.7 | ... | 316.0 |
| Hardwood: | | | | | | | |
| Red oaks | 14,858.2 | 7,601.5 | 4,492.5 | ... | 3,109.0 | 2,991.0 | 4,265.7 |
| White oaks | 13,358.2 | 5,800.0 | 2,846.3 | ... | 2,953.7 | 1,946.3 | 5,611.9 |
| Hickories | 4,993.9 | 2,704.4 | 991.0 | ... | 1,713.4 | 571.6 | 1,717.9 |
| Sweetgum | 1,980.6 | 1,246.3 | 797.0 | ... | 449.3 | 400.0 | 334.3 |
| Black and tupelo gums | 2,710.3 | 1,167.1 | 894.0 | ... | 273.1 | 510.4 | 1,032.8 |
| Other hardwoods | 7,271.7 | 2,082.1 | 1,120.9 | ... | 961.2 | 726.9 | 4,462.7 |
| Total | 45,172.9 | 20,601.4 | 11,141.7 | ... | 9,459.7 | 7,146.2 | 17,425.3 |
| All species | 49,308.9 | 24,421.4 | 12,801.7 | 497.3 | 11,122.4 | 7,146.2 | 17,741.3 |
| | | | DELTA | | | | |
| Softwood: | | | | | | | |
| Loblolly pine | 261.4 | 258.7 | 133.3 | 20.0 | 105.4 | ... | 2.7 |
| Shortleaf pine | 313.4 | 313.4 | 202.7 | 26.7 | 84.0 | ... | ... |
| Other softwoods | 1,551.9 | 1,377.3 | 1,125.3 | 177.4 | 74.6 | ... | 174.6 |
| Total | 2,126.7 | 1,949.4 | 1,461.3 | 224.1 | 264.0 | ... | 177.3 |
| Hardwood: | | | | | | | |
| Red oaks | 10,758.2 | 6,101.5 | 3,605.9 | ... | 2,495.6 | 2,401.5 | 2,255.2 |
| White oaks | 8,094.1 | 4,898.5 | 3,020.9 | ... | 1,877.6 | 2,067.2 | 1,128.4 |
| Hickories | 1,800.0 | 1,243.3 | 470.2 | ... | 773.1 | 307.4 | 249.3 |
| Sweetgum | 2,841.7 | 1,894.0 | 1,173.1 | ... | 720.9 | 643.3 | 304.4 |
| Black and tupelo gums | 1,873.1 | 1,003.0 | 644.8 | ... | 358.2 | 397.0 | 473.1 |
| Other hardwoods | 19,197.1 | 10,162.7 | 6,564.2 | ... | 3,598.5 | 4,074.6 | 4,959.8 |
| Total | 44,564.2 | 25,303.0 | 15,479.1 | ... | 9,823.9 | 9,891.0 | 9,370.2 |
| All species | 46,690.9 | 27,252.4 | 16,940.4 | 224.1 | 10,087.9 | 9,891.0 | 9,547.5 |

Table 13.--Total volume by class of timber and species, by Survey region, 1948-51

| Species | All timber | Growing stock | | | | Upper stems and limbs | Cull trees |
|---|---|---|---|---|---|---|---|
| | | Total growing stock | Saw-timber trees | | Pole-timber trees | | |
| | | | Sawlog portions | Upper stems | | | |
| | - - - - - - | - - - - - - | - - - - - - | Million cubic feet | - - - - - - | - - - - - - | - - - - - - |
| | | | | STATE | | | |
| Softwood: | | | | | | | |
| Loblolly pine | 1,570.8 | 1,560.1 | 1,170.1 | 134.3 | 255.7 | ... | 10.7 |
| Shortleaf pine | 2,413.7 | 2,389.6 | 1,477.6 | 184.5 | 727.5 | ... | 24.1 |
| Other softwoods | 199.0 | 172.9 | 124.7 | 20.0 | 28.2 | ... | 26.1 |
| Total | 4,183.5 | 4,122.6 | 2,772.4 | 338.8 | 1,011.4 | ... | 60.9 |
| Hardwood: | | | | | | | |
| Red oaks | 3,011.1 | 1,636.8 | 946.2 | ... | 690.6 | 607.4 | 766.9 |
| White oaks | 2,646.1 | 1,420.0 | 759.5 | ... | 660.5 | 507.9 | 718.2 |
| Hickories | 804.2 | 476.4 | 197.9 | ... | 278.5 | 120.2 | 207.6 |
| Sweetgum | 1,110.1 | 739.9 | 409.1 | ... | 330.8 | 208.2 | 162.0 |
| Black and tupelo gums | 589.9 | 288.6 | 198.3 | ... | 90.3 | 114.7 | 186.6 |
| Other hardwoods | 2,489.1 | 1,117.4 | 658.3 | ... | 459.1 | 408.5 | 963.2 |
| Total | 10,650.5 | 5,679.1 | 3,169.3 | ... | 2,509.8 | 1,966.9 | 3,004.5 |
| All species | 14,834.0 | 9,801.7 | 5,941.7 | 338.8 | 3,521.2 | 1,966.9 | 3,065.4 |
| | | | | SOUTHWEST | | | |
| Softwood: | | | | | | | |
| Loblolly pine | 1,520.6 | 1,510.1 | 1,136.0 | 130.2 | 243.9 | ... | 10.5 |
| Shortleaf pine | 1,054.6 | 1,051.4 | 691.4 | 76.4 | 283.6 | ... | 3.2 |
| Other softwoods | 40.1 | 37.5 | 29.5 | 3.8 | 4.2 | ... | 2.6 |
| Total | 2,615.3 | 2,599.0 | 1,856.9 | 210.4 | 531.7 | ... | 16.3 |
| Hardwood: | | | | | | | |
| Red oaks | 1,039.3 | 583.2 | 334.3 | ... | 248.9 | 197.2 | 258.9 |
| White oaks | 767.2 | 461.0 | 244.9 | ... | 216.1 | 156.8 | 149.4 |
| Hickories | 238.6 | 147.0 | 78.6 | ... | 68.4 | 48.1 | 43.5 |
| Sweetgum | 692.2 | 470.1 | 242.0 | ... | 228.1 | 118.3 | 103.8 |
| Black and tupelo gums | 216.8 | 113.1 | 73.3 | ... | 39.8 | 40.8 | 62.9 |
| Other hardwoods | 566.3 | 241.7 | 120.8 | ... | 120.9 | 72.3 | 252.3 |
| Total | 3,520.4 | 2,016.1 | 1,093.9 | ... | 922.2 | 633.5 | 870.8 |
| All species | 6,135.7 | 4,615.1 | 2,950.8 | 210.4 | 1,453.9 | 633.5 | 887.1 |
| | | | | OUACHITA | | | |
| Softwood: | | | | | | | |
| Loblolly pine | 30.6 | 30.6 | 24.1 | 2.6 | 3.9 | ... | ... |
| Shortleaf pine | 1,054.5 | 1,047.5 | 652.6 | 70.6 | 324.3 | ... | 7.0 |
| Other softwoods | 13.4 | 12.8 | 4.7 | 1.1 | 7.0 | ... | .6 |
| Total | 1,098.5 | 1,090.9 | 681.4 | 74.3 | 335.2 | ... | 7.6 |
| Hardwood: | | | | | | | |
| Red oaks | 255.5 | 135.5 | 69.3 | ... | 66.2 | 48.9 | 71.1 |
| White oaks | 441.6 | 242.2 | 121.5 | ... | 120.7 | 82.2 | 117.2 |
| Hickories | 110.4 | 64.9 | 21.4 | ... | 43.5 | 13.2 | 32.3 |
| Sweetgum | 94.8 | 59.4 | 35.1 | ... | 24.3 | 20.0 | 15.4 |
| Black and tupelo gums | 66.0 | 30.1 | 21.9 | ... | 8.2 | 13.1 | 22.8 |
| Other hardwoods | 149.4 | 55.3 | 22.6 | ... | 32.7 | 14.5 | 79.6 |
| Total | 1,117.7 | 587.4 | 291.8 | ... | 295.6 | 191.9 | 338.4 |
| All species | 2,216.2 | 1,678.3 | 973.2 | 74.3 | 630.8 | 191.9 | 346.0 |
| | | | | OZARK | | | |
| Softwood: | | | | | | | |
| Shortleaf pine | 281.1 | 267.2 | 118.4 | 35.5 | 113.3 | ... | 13.9 |
| Other softwoods | 29.1 | 19.3 | 6.1 | 1.8 | 11.4 | ... | 9.8 |
| Total | 310.2 | 286.5 | 124.5 | 37.3 | 124.7 | ... | 23.7 |
| Hardwood: | | | | | | | |
| Red oaks | 995.5 | 509.3 | 301.0 | ... | 208.3 | 200.4 | 285.8 |
| White oaks | 895.0 | 388.6 | 190.7 | ... | 197.9 | 130.4 | 376.0 |
| Hickories | 334.6 | 181.2 | 66.4 | ... | 114.8 | 38.3 | 115.1 |
| Sweetgum | 132.7 | 83.5 | 53.4 | ... | 30.1 | 26.8 | 22.4 |
| Black and tupelo gums | 181.6 | 78.2 | 59.9 | ... | 18.3 | 34.2 | 69.2 |
| Other hardwoods | 487.2 | 139.5 | 75.1 | ... | 64.4 | 48.7 | 299.0 |
| Total | 3,026.6 | 1,380.3 | 746.5 | ... | 633.8 | 478.8 | 1,167.5 |
| All species | 3,336.8 | 1,666.8 | 871.0 | 37.3 | 758.5 | 478.8 | 1,191.2 |
| | | | | DELTA | | | |
| Softwood: | | | | | | | |
| Loblolly pine | 19.6 | 19.4 | 10.0 | 1.5 | 7.9 | ... | .2 |
| Shortleaf pine | 23.5 | 23.5 | 15.2 | 2.0 | 6.3 | ... | ... |
| Other softwoods | 116.4 | 103.3 | 84.4 | 13.3 | 5.6 | ... | 13.1 |
| Total | 159.5 | 146.2 | 109.6 | 16.8 | 19.8 | ... | 13.3 |
| Hardwood: | | | | | | | |
| Red oaks | 720.8 | 408.8 | 241.6 | ... | 167.2 | 160.9 | 151.1 |
| White oaks | 542.3 | 328.2 | 202.4 | ... | 125.8 | 138.5 | 75.6 |
| Hickories | 120.6 | 83.3 | 31.5 | ... | 51.8 | 20.6 | 16.7 |
| Sweetgum | 190.4 | 126.9 | 78.6 | ... | 48.3 | 43.1 | 20.4 |
| Black and tupelo gums | 125.5 | 67.2 | 43.2 | ... | 24.0 | 26.6 | 31.7 |
| Other hardwoods | 1,286.2 | 680.9 | 439.8 | ... | 241.1 | 273.0 | 332.3 |
| Total | 2,985.8 | 1,695.3 | 1,037.1 | ... | 658.2 | 662.7 | 627.8 |
| All species | 3,145.3 | 1,841.5 | 1,146.7 | 16.8 | 678.0 | 662.7 | 641.1 |

Table14. --Growing stock by species and Survey region, 1948-51

| Species | State | Southwest | Ouachita | Ozark | Delta |
|---|---|---|---|---|---|
| | - - - - - - | - Million cubic feet | - - - - - - - | | |
| Softwood: | | | | | |
| Loblolly pine | 1,560.1 | 1,510.1 | 30.6 | ... | 19.4 |
| Shortleaf pine | 2,389.6 | 1,051.4 | 1,047.5 | 267.2 | 23.5 |
| Cypress | 155.3 | 37.1 | 9.7 | 5.7 | 102.8 |
| Cedar | 17.6 | .4 | 3.1 | 13.6 | .5 |
| Total | 4,122.6 | 2,599.0 | 1,090.9 | 286.5 | 146.2 |
| Hardwood: | | | | | |
| Southern red, black and scarlet oaks | 788.4 | 290.9 | 74.9 | 352.6 | 70.0 |
| Cherrybark, Shumard, and northern red oaks | 300.4 | 79.5 | 36.7 | 121.5 | 62.7 |
| Water oaks | 548.0 | 212.8 | 23.9 | 35.2 | 276.1 |
| White oaks | 582.5 | 190.3 | 115.8 | 202.8 | 73.6 |
| Other white oaks | 837.5 | 270.7 | 126.4 | 185.8 | 254.6 |
| Sweetgum | 739.9 | 470.1 | 59.4 | 83.5 | 126.9 |
| Black and tupelo gums | 288.6 | 113.1 | 30.1 | 78.2 | 67.2 |
| Cottonwood | 70.2 | 4.1 | 1.5 | 7.7 | 56.9 |
| Willow | 115.9 | 16.2 | 2.8 | 1.7 | 95.2 |
| Pecan | 146.6 | 20.0 | 2.6 | 10.9 | 113.1 |
| Other hickories | 476.4 | 147.0 | 64.9 | 181.2 | 83.3 |
| Elms | 271.5 | 71.9 | 26.0 | 41.1 | 132.5 |
| Maples | 57.7 | 21.1 | 3.8 | 11.4 | 21.4 |
| Yellow-poplar | .9 | .2 | ... | ... | .7 |
| Sycamore | 48.1 | 14.9 | 6.3 | 9.0 | 17.9 |
| Ash | 126.1 | 23.8 | 3.1 | 17.3 | 81.9 |
| Beech | 19.6 | 15.0 | ... | 2.4 | 2.2 |
| Sweetbay and magnolia | 8.0 | 6.4 | .4 | 1.2 | ... |
| Hackberry | 106.9 | 17.1 | 2.0 | 7.4 | 80.4 |
| Other hardwoods | 145.9 | 31.0 | 6.8 | 29.4 | 78.7 |
| Total | 5,679.1 | 2,016.1 | 587.4 | 1,380.3 | 1,695.3 |
| All species | 9,801.7 | 4,615.1 | 1,678.3 | 1,666.3 | 1,841.5 |

Table 15.--Distribution of growing stock by species within each forest type, 1948-51

| Species | All types | Loblolly-shortleaf pine | Loblolly-shortleaf pine-hardwood | Cedar | Bottom-land hardwood | Upland hardwood | Upland hardwood-pine |
|---|---|---|---|---|---|---|---|
| | Percent | | | | | | |
| Softwood: | | | | | | | |
| Loblolly pine | 15.9 | 31.0 | 26.7 | ... | 1.3 | ... | 4.1 |
| Shortleaf pine | 24.4 | 57.1 | 26.8 | 5.5 | (1/) | ... | 7.4 |
| Cypress | 1.6 | ... | (1/) | ... | 6.3 | ... | ... |
| Cedar | .2 | (1/) | (1/) | 30.4 | (1/) | .3 | .4 |
| Total | 42.1 | 88.1 | 53.5 | 35.9 | 7.6 | .3 | 11.9 |
| Hardwood: | | | | | | | |
| Southern red, black, and scarlet oaks | 8.0 | 2.6 | 10.1 | 2.2 | .6 | 24.2 | 19.6 |
| Cherrybark, Shumard, and northern red oaks | 3.1 | .4 | 1.7 | 2.9 | 2.9 | 10.3 | 4.8 |
| Water oaks | 5.6 | .3 | 2.6 | ... | 18.0 | 1.3 | 3.0 |
| White oaks | 5.9 | 2.0 | 7.8 | 1.5 | 1.3 | 15.1 | 15.5 |
| Other white oaks | 8.5 | 2.6 | 8.5 | 27.1 | 10.9 | 16.1 | 11.2 |
| Sweetgum | 7.5 | 1.9 | 6.6 | 2.2 | 14.7 | 5.7 | 13.5 |
| Black and tupelo gums | 2.9 | .7 | 3.0 | (1/) | 4.4 | 4.6 | 4.5 |
| Cottonwood | .7 | ... | ... | ... | 2.8 | .1 | (1/) |
| Willow | 1.2 | ... | .1 | ... | 4.6 | .1 | ... |
| Pecan | 1.5 | ... | ... | ... | 5.9 | (1/) | (1/) |
| Other hickories | 4.9 | 1.1 | 4.1 | 11.0 | 3.3 | 14.0 | 10.1 |
| Elms | 2.8 | .2 | .9 | 10.6 | 7.3 | 3.5 | 2.0 |
| Maples | .6 | (1/) | .4 | .4 | 1.3 | .7 | 1.1 |
| Yellow-poplar | (1/) | ... | ... | ... | ... | .1 | (1/) |
| Sycamore | .5 | ... | (1/) | .7 | 1.5 | .5 | .4 |
| Ash | 1.3 | (1/) | .2 | 2.2 | 3.9 | 1.1 | 1.0 |
| Beech | .2 | (1/) | .2 | ... | .2 | .3 | .7 |
| Sweet bay and magnolia | .1 | ... | .1 | ... | .2 | .1 | (1/) |
| Hackberry | 1.1 | ... | (1/) | .7 | 4.2 | .1 | .1 |
| Other hardwoods | 1.5 | .1 | .2 | 2.6 | 4.4 | 1.8 | .6 |
| Total | 57.9 | 11.9 | 46.5 | 64.1 | 92.4 | 99.7 | 88.1 |
| All species | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

1/ Negligible.

Table 16.--Growing stock by species and stand size, by Survey region, 1948-51

| Species | All stand sizes | Large saw timber | Small saw timber | Pole-timber | Seedling and sapling | Nonstocked and other areas 1/ |
|---|---|---|---|---|---|---|
| | - - - - - - | - - - - - - | - - - Million cubic feet | - - - - - - | - - - - - - | - - - - - - |
| | | | STATE | | | |
| Softwood: | | | | | | |
| Loblolly pine | 1,560.1 | 436.2 | 888.6 | 223.9 | 10.9 | .5 |
| Shortleaf pine | 2,389.6 | 348.6 | 1,354.7 | 668.0 | 17.9 | .4 |
| Other softwoods | 172.9 | 50.8 | 76.8 | 40.2 | 5.1 | (2/) |
| Total | 4,122.6 | 835.6 | 2,320.1 | 932.1 | 33.9 | .9 |
| Hardwood: | | | | | | |
| Red oaks | 1,636.8 | 311.0 | 587.7 | 679.0 | 57.3 | 1.8 |
| White oaks | 1,420.0 | 236.5 | 433.1 | 682.5 | 64.5 | 3.4 |
| Hickories | 476.4 | 62.8 | 131.6 | 255.4 | 25.2 | 1.4 |
| Sweetgum | 739.9 | 156.7 | 310.0 | 258.4 | 14.6 | .2 |
| Black and tupelo gums | 288.6 | 84.3 | 108.6 | 87.2 | 8.4 | .1 |
| Other hardwoods | 1,117.4 | 319.4 | 403.1 | 358.1 | 33.9 | 2.9 |
| Total | 5,679.1 | 1,170.7 | 1,974.1 | 2,320.6 | 203.9 | 9.8 |
| All species | 9,801.7 | 2,006.3 | 4,294.2 | 3,252.7 | 237.8 | 10.7 |
| | | | SOUTHWEST | | | |
| Softwood: | | | | | | |
| Loblolly pine | 1,510.1 | 428.7 | 862.2 | 207.9 | 10.8 | .5 |
| Shortleaf pine | 1,051.4 | 165.8 | 727.0 | 154.5 | 3.9 | .2 |
| Other softwoods | 37.5 | 19.0 | 11.8 | 6.5 | .2 | ... |
| Total | 2,599.0 | 613.5 | 1,601.0 | 368.9 | 14.9 | .7 |
| Hardwood: | | | | | | |
| Red oaks | 583.2 | 136.5 | 264.1 | 178.1 | 4.5 | .. |
| White oaks | 461.0 | 85.8 | 196.2 | 172.0 | 5.8 | 1.2 |
| Hickories | 147.0 | 31.4 | 57.9 | 56.6 | .7 | .4 |
| Sweetgum | 470.1 | 95.1 | 205.3 | 163.3 | 6.4 | ... |
| Black and tupelo gums | 113.1 | 37.7 | 49.5 | 24.7 | 1.2 | ... |
| Other hardwoods | 241.7 | 59.4 | 86.8 | 91.0 | 3.4 | 1.1 |
| Total | 2,016.1 | 445.9 | 859.8 | 685.7 | 22.0 | 2.7 |
| All species | 4,615.1 | 1,059.4 | 2,460.8 | 1,054.6 | 36.9 | 3.4 |
| | | | OUACHITA | | | |
| Softwood: | | | | | | |
| Loblolly pine | 30.6 | 7.1 | 16.6 | 6.9 | ... | .. |
| Shortleaf pine | 1,047.5 | 163.6 | 508.8 | 368.4 | 6.7 | ... |
| Other softwoods | 12.8 | ... | ... | 12.8 | ... | ... |
| Total | 1,090.9 | 170.7 | 525.4 | 388.1 | 6.7 | ... |
| Hardwood: | | | | | | |
| Red oaks | 135.5 | 19.8 | 30.8 | 82.5 | 2.4 | ... |
| White oaks | 242.2 | 29.1 | 53.0 | 152.3 | 7.7 | .1 |
| Hickories | 64.9 | 5.4 | 13.5 | 44.1 | 1.9 | ... |
| Sweetgum | 59.4 | 4.9 | 21.6 | 31.5 | 1.4 | ... |
| Black and tupelo gums | 30.1 | 4.7 | 9.9 | 14.9 | .6 | ... |
| Other hardwoods | 55.3 | 9.4 | 15.4 | 27.8 | 2.7 | ... |
| Total | 587.4 | 73.3 | 144.2 | 353.1 | 16.7 | .1 |
| All species | 1,678.3 | 244.0 | 669.6 | 741.2 | 23.4 | .1 |
| | | | OZARK | | | |
| Softwood: | | | | | | |
| Shortleaf pine | 267.2 | 19.1 | 102.3 | 138.4 | 7.2 | .2 |
| Other softwoods | 19.3 | 0.6 | 4.5 | 10.5 | 3.7 | (2/) |
| Total | 286.5 | 19.7 | 106.8 | 148.9 | 10.9 | .2 |
| Hardwood: | | | | | | |
| Red oaks | 509.3 | 76.4 | 132.1 | 259.6 | 39.7 | 1.5 |
| White oaks | 388.6 | 34.1 | 72.0 | 236.2 | 44.5 | 1.8 |
| Hickories | 181.2 | 14.8 | 33.2 | 110.9 | 21.3 | 1.0 |
| Sweetgum | 83.5 | 19.5 | 31.7 | 26.3 | 5.8 | .2 |
| Black and tupelo gums | 78.2 | 20.9 | 23.7 | 27.3 | 6.2 | .1 |
| Other hardwoods | 139.5 | 28.1 | 28.6 | 64.2 | 17.1 | 1.5 |
| Total | 1,380.3 | 193.8 | 321.3 | 724.5 | 134.6 | 6.1 |
| All species | 1,666.8 | 213.5 | 428.1 | 873.4 | 145.5 | 6.3 |
| | | | DELTA | | | |
| Softwood: | | | | | | |
| Loblolly pine | 19.4 | 0.4 | 9.8 | 9.1 | 0.1 | ... |
| Shortleaf pine | 23.5 | .1 | 16.6 | 6.7 | .1 | ... |
| Other softwoods | 103.3 | 31.2 | 60.5 | 10.4 | 1.2 | ... |
| Total | 146.2 | 31.7 | 86.9 | 26.2 | 1.4 | ... |
| Hardwood: | | | | | | |
| Red oaks | 408.8 | 78.3 | 160.7 | 158.8 | 10.7 | 0.3 |
| White oaks | 328.2 | 87.5 | 111.9 | 122.0 | 6.5 | .3 |
| Hickories | 83.3 | 11.2 | 27.0 | 43.8 | 1.3 | ... |
| Sweetgum | 126.9 | 37.2 | 51.4 | 37.3 | 1.0 | ... |
| Black and tupelo gums | 67.2 | 21.0 | 25.5 | 20.3 | .4 | ... |
| Other hardwoods | 680.9 | 222.5 | 272.3 | 175.1 | 10.7 | .3 |
| Total | 1,695.3 | 457.7 | 648.8 | 557.3 | 30.6 | .9 |
| All species | 1,841.5 | 489.4 | 735.7 | 583.5 | 32.0 | .9 |

1/ Includes areas not classified elsewhere.

2/ Negligible.

Table 17.--Average volume per acre of growing stock by forest type and Survey region, 1948-51

| Forest type | State | Southwest | Ouachita | Ozark | Delta |
|---|---|---|---|---|---|
| | Cubic feet | | | | |
| Softwood types: | | | | | |
| Loblolly-shortleaf pine | 857 | 1,051 | 722 | 449 | 755 |
| Loblolly-shortleaf pine-hardwood | 547 | 666 | 381 | 382 | 356 |
| Cedar | 97 | ... | 230 | 82 | 107 |
| Total | 683 | 851 | 563 | 338 | 454 |
| Hardwood types: | | | | | |
| Bottomland hardwood | 562 | 594 | 519 | 477 | 559 |
| Upland hardwood | 272 | 481 | 217 | 245 | 420 |
| Upland hardwood-pine | 352 | 433 | 324 | 247 | 481 |
| Total | 395 | 524 | 329 | 260 | 530 |
| All types | 507 | 728 | 495 | 273 | 527 |

Table 18.--Average volume per acre of growing stock by stand size and forest type, 1948-51

| Forest type | All stand sizes | Large saw timber | Small saw timber | Pole timber | Seedling and sapling | Nonstocked and other areas 1/ |
|---|---|---|---|---|---|---|
| | Cubic feet | | | | | |
| Softwood types: | | | | | | |
| Loblolly-shortleaf pine | 857 | 1,531 | 1,196 | 453 | 59 | 15 |
| Loblolly-shortleaf pine-hardwood | 547 | 1,223 | 863 | 343 | 72 | ... |
| Cedar | 97 | ... | ... | 210 | 48 | 19 |
| All softwood types | 683 | 1,399 | 1,067 | 384 | 61 | 11 |
| Hardwood types: | | | | | | |
| Bottomland hardwood | 562 | 907 | 768 | 384 | 95 | 70 |
| Upland hardwood | 272 | 670 | 597 | 277 | 80 | 46 |
| Upland hardwood-pine | 352 | 781 | 728 | 348 | 83 | 12 |
| All hardwood types | 395 | 845 | 717 | 326 | 83 | 48 |
| All types | 507 | 1,047 | 913 | 346 | 78 | 38 |

1/ Includes areas not classified elsewhere.

Table 19.--Saw-timber volume by species and tree diameter, by Survey region, 1948-51

| Species | All diameter classes | 10 - 12 inches [1] | 14 - 18 inches | 20 - 24 inches | 26 inches and up |
|---|---|---|---|---|---|
| | Million board feet | | | | |
| | | | STATE | | |
| Softwood: | | | | | |
| Loblolly pine | 7,194.0 | 2,554.7 | 3,523.1 | 938.5 | 177.7 |
| Shortleaf pine | 8,827.5 | 4,437.0 | 3,913.8 | 439.0 | 37.7 |
| Other softwoods | 753.9 | 193.0 | 362.2 | 107.2 | 91.5 |
| Total | 16,775.4 | 7,184.7 | 7,799.1 | 1,484.7 | 306.9 |
| Hardwood: | | | | | |
| Red oaks | 6,027.1 | 1,252.2 | 3,164.0 | 1,185.1 | 425.8 |
| White oaks | 4,778.2 | 975.6 | 2,504.2 | 882.0 | 416.4 |
| Hickories | 1,238.2 | 321.6 | 702.6 | 145.7 | 68.3 |
| Sweetgum | 2,580.9 | 560.6 | 1,494.6 | 381.1 | 144.6 |
| Black and tupelo gums | 1,255.3 | 180.2 | 689.3 | 310.2 | 75.6 |
| Other hardwoods | 4,143.5 | 752.6 | 2,171.3 | 795.9 | 423.7 |
| Total | 20,023.2 | 4,042.8 | 10,726.0 | 3,700.0 | 1,554.4 |
| All species | 36,798.6 | 11,227.5 | 18,525.1 | 5,184.7 | 1,861.3 |
| | | | SOUTHWEST | | |
| Softwood: | | | | | |
| Loblolly pine | 6,985.4 | 2,477.1 | 3,401.2 | 929.4 | 177.7 |
| Shortleaf pine | 4,133.7 | 2,099.7 | 1,893.7 | 140.3 | ... |
| Other softwoods | 180.7 | 33.3 | 87.6 | 34.6 | 25.2 |
| Total | 11,299.8 | 4,610.1 | 5,382.5 | 1,104.3 | 202.9 |
| Hardwood: | | | | | |
| Red oaks | 2,118.7 | 458.7 | 1,123.5 | 406.6 | 129.9 |
| White oaks | 1,558.0 | 310.3 | 824.1 | 307.7 | 115.9 |
| Hickories | 506.3 | 97.4 | 282.8 | 62.4 | 63.7 |
| Sweetgum | 1,525.2 | 365.5 | 910.2 | 184.2 | 65.3 |
| Black and tupelo gums | 470.6 | 67.0 | 227.7 | 134.3 | 41.6 |
| Other hardwoods | 759.7 | 176.8 | 393.3 | 116.0 | 73.6 |
| Total | 6,938.5 | 1,475.7 | 3,761.6 | 1,211.2 | 490.0 |
| All species | 18,238.3 | 6,085.8 | 9,144.1 | 2,315.5 | 692.9 |
| | | | OUACHITA | | |
| Softwood: | | | | | |
| Loblolly pine | 148.7 | 48.4 | 94.8 | 5.5 | ... |
| Shortleaf pine | 3,892.9 | 1,875.4 | 1,703.2 | 276.6 | 37.7 |
| Other softwoods | 24.4 | 21.9 | 2.5 | ... | ... |
| Total | 4,066.0 | 1,945.7 | 1,800.5 | 282.1 | 37.7 |
| Hardwood: | | | | | |
| Red oaks | 433.8 | 84.7 | 236.1 | 69.9 | 43.1 |
| White oaks | 757.3 | 175.3 | 439.2 | 127.9 | 14.9 |
| Hickories | 133.0 | 47.6 | 75.3 | 10.1 | ... |
| Sweetgum | 220.9 | 42.2 | 125.7 | 39.2 | 13.8 |
| Black and tupelo gums | 133.3 | 19.7 | 81.5 | 32.1 | ... |
| Other hardwoods | 139.8 | 39.0 | 68.3 | 28.4 | 4.1 |
| Total | 1,818.1 | 408.5 | 1,026.1 | 307.6 | 75.9 |
| All species | 5,884.1 | 2,354.2 | 2,826.6 | 589.7 | 113.6 |
| | | | OZARK | | |
| Softwood: | | | | | |
| Shortleaf pine | 710.1 | 412.1 | 275.9 | 22.1 | ... |
| Other softwoods | 34.1 | 25.0 | 9.1 | ... | ... |
| Total | 744.2 | 437.1 | 285.0 | 22.1 | ... |
| Hardwood: | | | | | |
| Red oaks | 1,921.9 | 409.2 | 1,012.3 | 390.7 | 109.7 |
| White oaks | 1,188.0 | 308.0 | 661.0 | 180.3 | 38.7 |
| Hickories | 399.3 | 126.3 | 234.2 | 34.2 | 4.6 |
| Sweetgum | 333.7 | 65.9 | 196.7 | 61.8 | 9.3 |
| Black and tupelo gums | 379.7 | 54.1 | 229.5 | 69.3 | 26.8 |
| Other hardwoods | 467.2 | 112.5 | 241.4 | 89.9 | 23.4 |
| Total | 4,689.8 | 1,076.0 | 2,575.1 | 826.2 | 212.5 |
| All species | 5,434.0 | 1,513.1 | 2,860.1 | 848.3 | 212.5 |
| | | | DELTA | | |
| Softwood: | | | | | |
| Loblolly pine | 59.9 | 29.2 | 27.1 | 3.6 | ... |
| Shortleaf pine | 90.8 | 49.8 | 41.0 | ... | ... |
| Other softwoods | 514.7 | 112.8 | 263.0 | 72.6 | 66.3 |
| Total | 665.4 | 191.8 | 331.1 | 76.2 | 66.3 |
| Hardwood: | | | | | |
| Red oaks | 1,552.7 | 299.6 | 792.1 | 317.9 | 143.1 |
| White oaks | 1,274.9 | 182.0 | 579.9 | 266.1 | 246.9 |
| Hickories | 199.6 | 50.3 | 110.3 | 39.0 | ... |
| Sweetgum | 501.1 | 87.0 | 262.0 | 95.9 | 56.2 |
| Black and tupelo gums | 271.7 | 39.4 | 150.6 | 74.5 | 7.2 |
| Other hardwoods | 2,776.8 | 424.3 | 1,468.3 | 561.6 | 322.6 |
| Total | 6,576.8 | 1,082.6 | 3,363.2 | 1,355.0 | 776.0 |
| All species | 7,242.2 | 1,274.4 | 3,694.3 | 1,431.2 | 842.3 |

[1] Hardwood saw-timber volume not tallied in trees under 11.0 inches d. b. h.

Table 20.--Saw-timber volume by species and stand size, by Survey region, 1948-51

| Species | All stand sizes | Large saw timber | Small saw timber | Pole timber | Seedling and sapling | Nonstocked and other areas 1/ |
|---|---|---|---|---|---|---|
| | Million board feet | | | | | |
| | | | STATE | | | |
| Softwood: | | | | | | |
| Loblolly pine | 7,194.0 | 2,443.3 | 4,096.7 | 622.3 | 31.7 | ... |
| Shortleaf pine | 8,827.5 | 1,845.7 | 5,481.9 | 1,449.1 | 50.4 | .4 |
| Other softwoods | 753.9 | 278.2 | 348.0 | 114.6 | 13.0 | .1 |
| Total | 16,775.4 | 4,567.2 | 9,926.6 | 2,186.0 | 95.1 | .5 |
| Hardwood: | | | | | | |
| Red oaks | 6,027.1 | 1,547.2 | 2,487.6 | 1,785.7 | 197.5 | 9.1 |
| White oaks | 4,778.2 | 1,225.5 | 1,532.4 | 1,791.7 | 216.2 | 12.4 |
| Hickories | 1,238.2 | 288.9 | 391.7 | 493.9 | 58.6 | 5.1 |
| Sweetgum | 2,580.9 | 767.6 | 1,181.1 | 582.6 | 48.7 | .9 |
| Black and tupelo gums | 1,255.3 | 446.7 | 445.8 | 329.8 | 32.6 | .4 |
| Other hardwoods | 4,143.5 | 1,630.1 | 1,615.1 | 797.7 | 90.7 | 9.9 |
| Total | 20,023.2 | 5,906.0 | 7,653.7 | 5,781.4 | 644.3 | 37.8 |
| All species | 36,798.6 | 10,473.2 | 17,580.3 | 7,967.4 | 739.4 | 38.3 |
| | | | SOUTHWEST | | | |
| Softwood: | | | | | | |
| Loblolly pine | 6,985.4 | 2,400.9 | 3,968.1 | 584.7 | 31.7 | ... |
| Shortleaf pine | 4,133.7 | 866.4 | 2,942.5 | 312.9 | 11.9 | ... |
| Other softwoods | 180.7 | 102.7 | 47.6 | 29.5 | .9 | ... |
| Total | 11,299.8 | 3,370.0 | 6,958.2 | 927.1 | 44.5 | ... |
| Hardwood: | | | | | | |
| Red oaks | 2,118.7 | 632.0 | 1,056.1 | 416.1 | 14.5 | ... |
| White oaks | 1,558.0 | 412.6 | 674.8 | 449.1 | 14.4 | 7.1 |
| Hickories | 506.3 | 165.7 | 199.5 | 137.6 | 1.5 | 2.0 |
| Sweetgum | 1,525.2 | 409.2 | 773.8 | 326.9 | 15.3 | ... |
| Black and tupelo gums | 470.6 | 194.3 | 192.1 | 80.5 | 3.7 | ... |
| Other hardwoods | 759.7 | 289.3 | 287.8 | 172.6 | 3.9 | 6.1 |
| Total | 6,938.5 | 2,103.1 | 3,184.1 | 1,582.8 | 53.3 | 15.2 |
| All species | 18,238.3 | 5,473.1 | 10,142.3 | 2,509.9 | 97.8 | 15.2 |
| | | | OUACHITA | | | |
| Softwood: | | | | | | |
| Loblolly pine | 148.7 | 41.0 | 85.6 | 22.1 | ... | ... |
| Shortleaf pine | 3,892.9 | 889.2 | 2,081.2 | 902.3 | 20.2 | ... |
| Other softwoods | 24.4 | ... | ... | 24.4 | ... | ... |
| Total | 4,066.0 | 930.2 | 2,166.8 | 948.8 | 20.2 | ... |
| Hardwood: | | | | | | |
| Red oaks | 433.8 | 95.2 | 117.1 | 211.3 | 10.2 | ... |
| White oaks | 757.3 | 140.2 | 177.6 | 414.7 | 24.8 | ... |
| Hickories | 133.0 | 18.4 | 31.6 | 80.4 | 2.6 | ... |
| Sweetgum | 220.9 | 24.0 | 94.9 | 96.0 | 6.0 | ... |
| Black and tupelo gums | 133.3 | 19.0 | 42.2 | 69.1 | 3.0 | ... |
| Other hardwoods | 139.8 | 36.0 | 56.2 | 45.0 | 2.6 | ... |
| Total | 1,818.1 | 332.8 | 519.6 | 916.5 | 49.2 | ... |
| All species | 5,884.1 | 1,263.0 | 2,686.4 | 1,865.3 | 69.4 | ... |
| | | | OZARK | | | |
| Softwood: | | | | | | |
| Shortleaf pine | 710.1 | 89.6 | 384.2 | 217.9 | 18.0 | .4 |
| Other softwoods | 34.1 | 2.6 | 12.8 | 12.9 | 5.7 | .1 |
| Total | 744.2 | 92.2 | 397.0 | 230.8 | 23.7 | .5 |
| Hardwood: | | | | | | |
| Red oaks | 1,921.9 | 421.9 | 641.6 | 725.0 | 126.9 | 6.5 |
| White oaks | 1,188.0 | 171.4 | 273.9 | 590.6 | 146.8 | 5.3 |
| Hickories | 399.3 | 56.3 | 99.6 | 193.0 | 47.3 | 3.1 |
| Sweetgum | 333.7 | 111.5 | 120.4 | 77.8 | 23.1 | .9 |
| Black and tupelo gums | 379.7 | 123.5 | 117.4 | 115.4 | 23.0 | .4 |
| Other hardwoods | 467.2 | 148.8 | 126.9 | 145.0 | 42.7 | 3.8 |
| Total | 4,689.8 | 1,033.4 | 1,379.8 | 1,846.8 | 409.8 | 20.0 |
| All species | 5,434.0 | 1,125.6 | 1,776.8 | 2,077.6 | 433.5 | 20.5 |
| | | | DELTA | | | |
| Softwood: | | | | | | |
| Loblolly pine | 59.9 | 1.4 | 43.0 | 15.5 | ... | ... |
| Shortleaf pine | 90.8 | .5 | 74.0 | 16.0 | 0.3 | ... |
| Other softwoods | 514.7 | 172.9 | 287.6 | 47.8 | 6.4 | ... |
| Total | 665.4 | 174.8 | 404.6 | 79.3 | 6.7 | ... |
| Hardwood: | | | | | | |
| Red oaks | 1,552.7 | 398.1 | 672.8 | 433.3 | 45.9 | 2.6 |
| White oaks | 1,274.9 | 501.3 | 406.1 | 337.3 | 30.2 | ... |
| Hickories | 199.6 | 48.5 | 61.0 | 82.9 | 7.2 | ... |
| Sweetgum | 501.1 | 222.9 | 192.0 | 81.9 | 4.3 | ... |
| Black and tupelo gums | 271.7 | 109.9 | 94.1 | 64.8 | 2.9 | ... |
| Other hardwoods | 2,776.8 | 1,156.0 | 1,144.2 | 435.1 | 41.5 | ... |
| Total | 6,576.8 | 2,436.7 | 2,570.2 | 1,435.3 | 132.0 | 2.6 |
| All species | 7,242.2 | 2,611.5 | 2,974.8 | 1,514.6 | 138.7 | 2.6 |

1/ Includes areas not classified elsewhere.

Table 21.—Saw-timber volume by species and Survey region, 1948-51

| Species | State | Southwest | Ouachita | Ozark | Delta |
|---|---|---|---|---|---|
| | - - - - - - - - - - - - | - - - Million board feet | - - - - - - - - - - - - | | |
| **Softwood:** | | | | | |
| Loblolly pine | 7,194.0 | 6,905.4 | 168.7 | ... | 59.9 |
| Shortleaf pine | 8,827.1 | 4,133.7 | 3,892.9 | 710.1 | 90.8 |
| Cypress | 731.5 | 380.1 | 17.6 | 19.1 | 314.3 |
| Cedar | 22.8 | .6 | 6.8 | 15.0 | .4 |
| Total | 16,775.4 | 11,419.8 | 4,086.0 | 744.2 | 465.4 |
| **Hardwood:** | | | | | |
| Southern red, black and scarlet oaks | 2,639.2 | 901.5 | 236.5 | 1,266.4 | 234.8 |
| Cherrybark, Shumard, and northern red oaks | 1,118.6 | 311.9 | 138.2 | 476.9 | 258.9 |
| Water oaks | 2,175.7 | 435.1 | 61.1 | 176.6 | 1,502.9 |
| White oaks | 1,964.6 | 414.1 | 397.2 | 856.9 | 296.4 |
| Other white oaks | 2,913.6 | 993.9 | 360.1 | 551.3 | 1,018.3 |
| Sweetgum | 2,580.9 | 1,525.2 | 162.9 | 393.7 | 501.1 |
| Black and tupelo gums | 1,255.3 | 610.6 | 133.3 | 179.7 | 271.7 |
| Cottonwood | 389.3 | 13.4 | 2.6 | 27.8 | 345.5 |
| Willow | 501.9 | 66.9 | 6.9 | 2.2 | 425.9 |
| Pecan | 669.5 | 91.1 | 9.8 | 45.2 | 523.4 |
| Other hickories | 1,238.2 | 500.5 | 133.6 | 399.3 | 189.8 |
| Elms | 897.0 | 193.3 | 53.6 | 115.2 | 534.9 |
| Maples | 169.8 | 56.7 | 7.4 | 37.9 | 67.8 |
| Yellow-poplar | 5.0 | ... | ... | | 5.0 |
| Sycamore | 241.4 | 66.4 | 36.9 | 47.7 | 90.7 |
| Ash | 417.7 | 75.8 | 2.2 | 93.4 | 246.3 |
| Beech | 83.5 | 61.0 | ... | 6.8 | 15.7 |
| Sweetbay and magnolia | 18.4 | 12.8 | 1.7 | 3.9 | ... |
| Hackberry | 413.7 | 30.5 | 6.0 | 28.7 | 348.5 |
| Other hardwoods | 334.7 | 39.6 | 12.7 | 88.1 | 194.3 |
| Total | 20,023.2 | 6,818.5 | 1,818.1 | 4,689.8 | 6,576.9 |
| All species | 36,798.6 | 18,238.3 | 5,904.1 | 5,434.0 | 7,237.5 |

Table 22.--Average saw-timber volume per acre by forest type and Survey region, 1948-51

| Forest type | State | Southwest | Ouachita | Ozark | Delta |
|---|---|---|---|---|---|
| | Board feet | | | | |
| Softwood types: | | | | | |
| Loblolly-shortleaf pine | 3,324 | 4,356 | 2,636 | 1,116 | 2,230 |
| Loblolly-shortleaf pine-hardwood | 2,016 | 2,548 | 1,307 | 1,195 | 1,099 |
| Cedar | 225 | ... | 385 | 208 | 143 |
| All softwood types | 2,594 | 3,418 | 2,010 | 909 | 1,373 |
| Hardwood types: | | | | | |
| Bottomland hardwood | 2,342 | 2,474 | 1,899 | 1,967 | 2,352 |
| Upland hardwood | 893 | 1,751 | 772 | 817 | 1,241 |
| Upland hardwood-pine | 1,061 | 1,329 | 940 | 784 | 1,143 |
| All hardwood types | 1,464 | 1,978 | 1,063 | 885 | 2,102 |
| All types | 1,903 | 2,877 | 1,735 | 889 | 2,071 |

Table 23.--Average saw-timber volume per acre by stand size and forest type, 1948-51

| Forest type | All stand sizes | Large saw timber | Small saw timber | Cordwood | Seedling and sapling | Nonstocked and other areas 1/ |
|---|---|---|---|---|---|---|
| | Board feet | | | | | |
| Softwood types: | | | | | | |
| Loblolly-shortleaf pine | 3,324 | 7,921 | 4,875 | 906 | 152 | 8 |
| Loblolly-shortleaf pine-hardwood | 2,016 | 6,158 | 3,423 | 893 | 184 | ... |
| Cedar | 225 | ... | ... | 499 | 106 | 57 |
| All softwood types | 2,594 | 7,167 | 4,314 | 888 | 151 | 13 |
| Hardwood types: | | | | | | |
| Bottomland hardwood | 2,342 | 4,854 | 3,246 | 1,050 | 383 | 306 |
| Upland hardwood | 893 | 3,586 | 2,434 | 693 | 251 | 151 |
| Upland hardwood-pine | 1,061 | 3,838 | 3,049 | 817 | 214 | 26 |
| All hardwood types | 1,464 | 4,489 | 3,005 | 826 | 270 | 183 |
| All types | 1,903 | 5,466 | 3,737 | 849 | 242 | 136 |

1/ Includes areas not classified elsewhere.

Table 24. --Softwood saw-timber volume by tree grade and stand quality, by species group and Survey region, 1948-51

| Species group and Survey region | All grades | Grade 1 | Grade 2 | Grade 3 | |
|---|---|---|---|---|---|
| | | | | In fair and better stands | In poor stands |
| | - - - - - - - - - | -Million board feet | - - - - - - - - - | | |
| Species group: | | | | | |
| Loblolly pine | 7, 194. 0 | 1, 384. 4 | 1, 777. 3 | 1, 616. 9 | 2, 415. 4 |
| Shortleaf pine | 8, 827. 5 | 1, 566. 8 | 2, 583. 8 | 1, 612. 3 | 3, 064. 6 |
| Other softwoods | 753. 9 | 337. 7 | 110. 6 | 111. 7 | 193. 9 |
| Total | 16, 775. 4 | 3, 288. 9 | 4, 471. 7 | 3, 340. 9 | 5, 673. 9 |
| Survey region: | | | | | |
| Southwest | 11, 299. 8 | 2, 232. 4 | 2, 880. 4 | 2, 483. 1 | 3, 703. 9 |
| Ouachita | 4, 066. 0 | 741. 2 | 1, 179. 2 | 621. 9 | 1, 523. 7 |
| Ozark | 744. 2 | 97. 2 | 276. 4 | 123. 6 | 247. 0 |
| Delta | 665. 4 | 218. 1 | 135. 7 | 112. 3 | 199. 3 |
| Total | 16, 775. 4 | 3, 288. 9 | 4, 471. 7 | 3, 340. 9 | 5, 673. 9 |

Table 25.--Hardwood saw-timber volume by log grade and stand quality, by species group and Survey region, 1948-51

| Species group and Survey region | All grades | Grade 1 | Grade 2 | Grade 3 A |  |  | Grade 3 B |  |  |
|---|---|---|---|---|---|---|---|---|---|
|  |  |  |  | Total | In fair and better stands | In poor stands | Total | In fair and better stands | In poor stands |
|  | Million board feet |  |  |  |  |  |  |  |  |
| Species group: |  |  |  |  |  |  |  |  |  |
| Red oaks | 6,027.1 | 361.6 | 1,043.0 | 3,527.2 | 1,067.8 | 2,459.4 | 1,095.3 | 338.5 | 756.8 |
| White oaks | 4,778.2 | 430.2 | 876.2 | 2,900.5 | 791.0 | 2,109.5 | 571.3 | 143.5 | 427.8 |
| Hickories | 1,238.2 | 54.2 | 208.6 | 779.6 | 270.3 | 509.3 | 195.8 | 75.5 | 120.3 |
| Sweetgum | 2,580.9 | 151.3 | 319.8 | 1,482.7 | 480.1 | 1,002.6 | 627.1 | 206.8 | 420.3 |
| Black and tupelo gums | 1,255.3 | 160.0 | 302.5 | 691.6 | 273.4 | 418.2 | 101.2 | 35.0 | 66.2 |
| Other hardwoods | 4,143.5 | 330.7 | 1,021.6 | 2,439.8 | 956.4 | 1,483.4 | 351.4 | 81.1 | 270.3 |
| Total | 20,023.2 | 1,488.0 | 3,771.7 | 11,821.4 | 3,839.0 | 7,982.4 | 2,942.1 | 880.4 | 2,061.7 |
| Survey region: |  |  |  |  |  |  |  |  |  |
| Southwest | 6,938.5 | 438.7 | 1,260.8 | 4,248.1 | 1,550.6 | 2,697.5 | 990.9 | 327.8 | 663.1 |
| Ouachita | 1,818.1 | 118.5 | 323.6 | 1,100.6 | 196.8 | 903.8 | 275.4 | 59.5 | 215.9 |
| Ozark | 4,689.8 | 254.3 | 654.9 | 2,646.8 | 743.4 | 1,903.4 | 1,133.8 | 368.9 | 764.9 |
| Delta | 6,576.8 | 676.5 | 1,532.4 | 3,825.9 | 1,348.2 | 2,477.7 | 542.0 | 124.2 | 417.8 |
| Total | 20,023.2 | 1,488.0 | 3,771.7 | 11,821.4 | 3,839.0 | 7,982.4 | 2,942.1 | 880.4 | 2,061.7 |

Table 26.--Net annual growth of saw timber and growing stock by species and class of timber, by Survey region, 1948-51

| Class of timber | Growing stock |  |  | Saw timber |  |  |
|---|---|---|---|---|---|---|
|  | All species | Softwood | Hardwood | All species | Softwood | Hardwood |
|  | - - - Million cubic feet - - - |  |  | - - - Million board feet - - - |  |  |
| STATE |  |  |  |  |  |  |
| Saw-timber trees | 392.6 | 227.0 | 165.6 | 2,180.8 | 1,168.4 | 1,012.4 |
| Pole-timber trees | 156.2 | 31.8 | 124.4 | ... | ... | ... |
| Total | 548.8 | 258.8 | 290.0 | 2,180.8 | 1,168.4 | 1,012.4 |
| SOUTHWEST |  |  |  |  |  |  |
| Saw-timber trees | 212.2 | 152.9 | 59.3 | 1,179.3 | 811.0 | 368.3 |
| Pole-timber trees | 63.6 | 15.3 | 48.3 | ... | ... | ... |
| Total | 275.8 | 168.2 | 107.6 | 1,179.3 | 811.0 | 368.3 |
| OUACHITA |  |  |  |  |  |  |
| Saw-timber trees | 64.7 | 52.8 | 11.9 | 336.2 | 263.1 | 73.1 |
| Pole-timber trees | 25.7 | 10.3 | 15.4 | ... | ... | ... |
| Total | 90.4 | 63.1 | 27.3 | 336.2 | 263.1 | 73.1 |
| OZARK |  |  |  |  |  |  |
| Saw-timber trees | 46.2 | 14.9 | 31.3 | 254.8 | 58.4 | 196.4 |
| Pole-timber trees | 37.9 | 4.4 | 33.5 | ... | ... | ... |
| Total | 84.1 | 19.3 | 64.8 | 254.8 | 58.4 | 196.4 |
| DELTA |  |  |  |  |  |  |
| Saw-timber trees | 69.5 | 6.4 | 63.1 | 410.5 | 35.9 | 374.6 |
| Pole-timber trees | 29.0 | 1.8 | 27.2 | ... | ... | ... |
| Total | 98.5 | 8.2 | 90.3 | 410.5 | 35.9 | 374.6 |

Table 27. --Net annual growth per acre of saw timber and growing stock, by forest-type and stand-size group, by Survey region, 1948-51

| Stand-size group | Growing stock | | | Saw timber | | |
|---|---|---|---|---|---|---|
| | All types | Softwood type | Hardwood type | All types | Softwood type | Hardwood type |
| | - - - Cubic feet - - - | | | - - - Board feet - - - | | |
| | | | STATE | | | |
| Saw timber | 44 | 57 | 31 | 223 | 282 | 165 |
| Pole timber | 24 | 33 | 20 | 70 | 93 | 57 |
| Other stand sizes | 9 | 11 | 8 | 13 | 19 | 11 |
| Total | 28 | 41 | 20 | 113 | 169 | 77 |
| | | | SOUTHWEST | | | |
| Saw timber | 58 | 65 | 39 | 294 | 327 | 206 |
| Pole timber | 33 | 40 | 26 | 99 | 118 | 79 |
| Other stand sizes | 15 | 17 | 12 | 21 | 27 | 16 |
| Total | 44 | 52 | 29 | 186 | 229 | 114 |
| | | | OUACHITA | | | |
| Saw timber | 38 | 40 | 24 | 186 | 197 | 125 |
| Pole timber | 25 | 29 | 17 | 73 | 84 | 49 |
| Other stand sizes | 7 | 6 | 7 | 8 | 12 | 5 |
| Total | 27 | 31 | 16 | 99 | 118 | 52 |
| | | | OZARK | | | |
| Saw timber | 21 | 31 | 19 | 103 | 127 | 98 |
| Pole timber | 16 | 26 | 13 | 41 | 57 | 38 |
| Other stand sizes | 7 | 7 | 7 | 10 | 15 | 9 |
| Total | 14 | 22 | 12 | 42 | 58 | 38 |
| | | | DELTA | | | |
| Saw timber | 34 | 56 | 33 | 186 | 220 | 185 |
| Pole timber | 27 | 42 | 26 | 76 | 80 | 76 |
| Other stand sizes | 12 | (1/) | 12 | 21 | 5 | 22 |
| Total | 28 | 42 | 28 | 117 | 122 | 117 |

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1/ Negligible.

Table 28.--Commodity drain on saw timber and growing stock in species groups, by commodity and Survey region, 1948

| Commodity | Growing stock | | | Saw timber | | |
|---|---|---|---|---|---|---|
| | All species | Softwood | Hardwood | All species | Softwood | Hardwood |
| | Million cubic feet | | | Million board feet | | |
| | | | STATE | | | |
| Sawlogs | 258.8 | 175.7 | 83.1 | 1,449.8 | 901.9 | 547.9 |
| Veneer logs | 12.3 | ... | 12.3 | 81.6 | ... | 81.6 |
| Cooperage bolts | 10.0 | ... | 10.0 | 65.6 | ... | 65.6 |
| Pulpwood | 40.8 | 38.1 | 2.7 | 66.6 | 60.5 | 6.1 |
| Fuel wood | 52.5 | 8.1 | 44.4 | 243.9 | 38.1 | 205.8 |
| Chemical wood | 3.3 | ... | 3.3 | 10.0 | ... | 10.0 |
| Piling | 0.7 | 0.7 | ... | 3.3 | 3.3 | ... |
| Poles | 3.9 | 3.9 | ... | 18.9 | 18.9 | ... |
| Posts | 10.6 | 4.0 | 6.6 | 30.2 | .6 | 29.6 |
| Hewn ties | 6.5 | .4 | 6.1 | 38.9 | 1.7 | 37.2 |
| Round mine timbers | .5 | .3 | 0.2 | 0.4 | 0.4 | ... |
| Miscellaneous products | 11.4 | 2.2 | 9.2 | 46.0 | 10.4 | 35.6 |
| Total | 411.3 | 233.4 | 177.9 | 2,055.2 | 1,035.8 | 1,019.4 |
| | | | SOUTHWEST | | | |
| Sawlogs | 152.7 | 109.3 | 43.4 | 846.9 | 560.8 | 286.1 |
| Veneer logs | 4.5 | ... | 4.5 | 30.1 | ... | 30.1 |
| Cooperage bolts | 1.4 | ... | 1.4 | 9.4 | ... | 9.4 |
| Pulpwood | 31.0 | 29.6 | 1.4 | 50.1 | 47.0 | 3.1 |
| Fuel wood | 12.1 | 3.6 | 8.5 | 56.5 | 17.3 | 39.2 |
| Chemical wood | 2.4 | ... | 2.4 | 7.3 | ... | 7.3 |
| Piling | .5 | .5 | ... | 2.0 | 2.0 | ... |
| Poles | 2.5 | 2.5 | ... | 11.9 | 11.9 | ... |
| Posts | 2.0 | .4 | 1.6 | 7.2 | .1 | 7.1 |
| Hewn ties | 3.3 | .4 | 2.9 | 19.5 | 1.5 | 18.0 |
| Round mine timbers | ... | ... | ... | ... | ... | ... |
| Miscellaneous products | 2.7 | 1.0 | 1.7 | 11.7 | 4.9 | 6.8 |
| Total | 215.1 | 147.3 | 67.8 | 1,052.6 | 645.5 | 407.1 |
| | | | OUACHITA | | | |
| Sawlogs | 43.9 | 39.9 | 4.0 | 231.7 | 205.0 | 26.7 |
| Veneer logs | 1.6 | ... | 1.6 | 10.7 | ... | 10.7 |
| Cooperage bolts | 1.6 | ... | 1.6 | 10.5 | ... | 10.5 |
| Pulpwood | 7.4 | 7.4 | (1/) | 11.7 | 11.7 | (1/) |
| Fuel wood | 7.2 | 2.2 | 5.0 | 33.2 | 10.1 | 23.1 |
| Chemical wood | ... | ... | ... | ... | ... | ... |
| Piling | (1/) | (1/) | ... | .1 | .1 | ... |
| Poles | 1.0 | 1.0 | ... | 4.6 | 4.6 | ... |
| Posts | 3.5 | 2.8 | .7 | 3.6 | .4 | 3.2 |
| Hewn ties | .2 | (1/) | .2 | 1.5 | .1 | 1.4 |
| Round mine timbers | .3 | .2 | .1 | .3 | .3 | ... |
| Miscellaneous products | 1.9 | 1.2 | .7 | 9.7 | 5.5 | 4.2 |
| Total | 68.6 | 54.7 | 13.9 | 317.6 | 237.8 | 79.8 |
| | | | OZARK | | | |
| Sawlogs | 31.1 | 20.4 | 10.7 | 175.0 | 104.7 | 70.3 |
| Veneer logs | .7 | ... | .7 | 4.9 | ... | 4.9 |
| Cooperage bolts | 3.1 | ... | 3.1 | 20.2 | ... | 20.2 |
| Pulpwood | .3 | .3 | ... | .5 | .5 | ... |
| Fuel wood | 11.4 | .6 | 10.8 | 53.1 | 2.9 | 50.2 |
| Chemical wood | .4 | ... | .4 | 1.2 | ... | 1.2 |
| Piling | (1/) | (1/) | ... | .1 | .1 | ... |
| Poles | .4 | .4 | ... | 2.2 | 2.2 | ... |
| Posts | 3.1 | .6 | 2.5 | 11.3 | .1 | 11.2 |
| Hewn ties | 1.6 | (1/) | 1.6 | 10.0 | .1 | 9.9 |
| Round mine timbers | .2 | .1 | .1 | .1 | .1 | ... |
| Miscellaneous products | 2.8 | (1/) | 2.8 | 10.5 | (1/) | 10.5 |
| Total | 55.1 | 22.4 | 32.7 | 289.1 | 110.7 | 178.4 |
| | | | DELTA | | | |
| Sawlogs | 31.1 | 6.1 | 25.0 | 196.2 | 31.4 | 164.8 |
| Veneer logs | 5.5 | ... | 5.5 | 35.9 | ... | 35.9 |
| Cooperage bolts | 3.9 | ... | 3.9 | 25.5 | ... | 25.5 |
| Pulpwood | 2.1 | .8 | 1.3 | 4.3 | 1.3 | 3.0 |
| Fuel wood | 21.8 | 1.7 | 20.1 | 101.1 | 7.8 | 93.3 |
| Chemical wood | .5 | ... | .5 | 1.5 | ... | 1.5 |
| Piling | .2 | .2 | ... | 1.1 | 1.1 | ... |
| Poles | (1/) | (1/) | ... | .2 | .2 | ... |
| Posts | 2.0 | .2 | 1.8 | 8.1 | (1/) | 8.1 |
| Hewn ties | 1.4 | (1/) | 1.4 | 7.9 | (1/) | 7.9 |
| Round mine timbers | ... | ... | ... | ... | ... | ... |
| Miscellaneous products | 4.0 | (1/) | 4.0 | 14.1 | ... | 14.1 |
| Total | 72.5 | 9.0 | 63.5 | 395.9 | 41.8 | 354.1 |

1/ Negligible.

Table 29.--Commodity drain of saw timber and growing stock by species, 1948

| Species | Growing stock | Saw timber |
|---|---|---|
| | Million cubic feet | Million board feet |
| Softwood: | | |
| Pines | 227.4 | 1,012.2 |
| Other | 6.0 | 23.6 |
| Total | 233.4 | 1,035.8 |
| Hardwood: | | |
| Oaks | 114.2 | 640.9 |
| Sweetgum | 29.1 | 184.6 |
| Black and tupelo gums | 8.5 | 51.5 |
| Other | 26.1 | 142.4 |
| Total | 177.9 | 1,019.4 |
| All species | 411.3 | 2,055.2 |

Table 30.--Commodity drain on saw timber and growing stock, by species group and class of timber by Survey region, 1948

| Class of timber | Growing stock | | | Saw timber | | |
|---|---|---|---|---|---|---|
| | All species | Softwood | Hardwood | All species | Softwood | Hardwood |
| | - - Million cubic feet - - - | | | - - -Million board feet - - - - | | |
| | | | STATE | | | |
| Saw-timber trees | 344.0 | 191.3 | 152.7 | 2,055.2 | 1,035.8 | 1,019.4 |
| Pole-timber trees | 67.3 | 42.1 | 25.2 | ... | ... | ... |
| Total | 411.3 | 233.4 | 177.9 | 2,055.2 | 1,035.8 | 1,019.4 |
| | | | SOUTHWEST | | | |
| Saw-timber trees | 179.1 | 119.3 | 59.8 | 1,052.6 | 645.5 | 407.1 |
| Pole-timber trees | 36.0 | 28.0 | 8.0 | ... | ... | ... |
| Total | 215.1 | 147.3 | 67.8 | 1,052.6 | 645.5 | 407.1 |
| | | | OUACHITA | | | |
| Saw-timber trees | 55.9 | 44.1 | 11.8 | 317.6 | 237.8 | 79.8 |
| Pole-timber trees | 12.7 | 10.6 | 2.1 | ... | ... | ... |
| Total | 68.6 | 54.7 | 13.9 | 317.6 | 237.8 | 79.8 |
| | | | OZARK | | | |
| Saw-timber trees | 47.4 | 20.2 | 27.2 | 289.1 | 110.7 | 178.4 |
| Pole-timber trees | 7.7 | 2.2 | 5.5 | ... | ... | ... |
| Total | 55.1 | 22.4 | 32.7 | 289.1 | 110.7 | 178.4 |
| | | | DELTA | | | |
| Saw-timber trees | 61.6 | 7.7 | 53.9 | 395.9 | 41.8 | 354.1 |
| Pole-timber trees | 10.9 | 1.3 | 9.6 | ... | ... | ... |
| Total | 72.5 | 9.0 | 63.5 | 395.9 | 41.8 | 354.1 |

## Definitions of Terms

### Forest Land

Forest land. Includes: (a) land which is at least 10 percent stocked by trees of any size and capable of producing timber or other wood products, or of exerting an influence on the climate or on the water regime; (b) land from which the trees have been removed to less than 10 percent stocking and which has not been developed for other use; (c) afforested area; (d) chaparral areas.

Commercial forest land. Forest land which is (a) producing, or is physically capable of producing, usable crops of wood (usually saw timber), (b) economically available now or prospectively, and (c) not withdrawn from timber utilization.

Noncommercial forest land. Forest land (a) withdrawn from timber utilization through statute, ordinance, or administrative order but which otherwise qualifies as commercial forest land or (b) incapable of yielding usable wood products (usually saw timber) because of adverse site conditions, or physical inaccessibility.

### Species

Commercial species. Includes species that normally have value for commercial timber products; excludes so-called weed or noncommercial species such as blackjack oak, scrub post oak, blue beech, sourwood, etc.

Softwoods. Loblolly pine (Pinus taeda), shortleaf pine (P. echinata), baldcypress (Taxodium distichum), and eastern redcedar (Juniperus virginiana).

Hardwoods. Broadleaved species, of which the most numerous genera or species are the oaks (Quercus spp.), hickories (Carya spp.), and sweetgum (Liquidambar styraciflua).

### Class of Timber

Saw-timber tree. A live tree of commercial species at least 9.0 inches d.b.h. in softwoods and 11.0 inches d.b.h. in hardwoods, that contains at least a 12-foot merchantable butt log--or, if the butt log is a cull, at least 50 percent of the gross volume is in merchantable logs. To be merchantable, a log must meet the following requirements:

(a) In softwoods, logs having a minimum 6-inch small-end diameter inside bark and at least one-third sound, with sweep or crook not exceeding two-thirds the small-end diameter.
(b) In hardwoods, logs having a minimum 8-inch small-end diameter inside bark and which meet the specifications of a grade 3B or better log.

Pole-timber tree. A live tree of commercial species between 5. 0 inches d. b. h. and saw-timber size, but straight and clear enough to become a saw-timber tree in the future. In the South, trees of this size are commonly termed cordwood trees.

Seedling and sapling trees. Live, well-established seedlings and trees of commercial species less than 5. 0 inches in d. b. h. , sound and of good form.

Cull tree. A live tree 5. 0 inches or larger in d. b. h. , which is unmerchantable for sawlogs now or prospectively because of defect, rot, or species.

## Forest Type

Forest type is based on the dominant and codominant trees of commercial species and good form which govern the stand-size class.

Loblolly-shortleaf pine. Stands in which loblolly and shortleaf pines comprise 75 percent or more of the trees.

Loblolly-shortleaf pine-hardwood. Stands in which loblolly and shortleaf pines comprise at least 25 percent of the trees, but less than 75 percent.

Cedar. Stands in which eastern redcedar comprises at least 25 percent of the trees.

Upland hardwood. Stands in which upland hardwoods comprise 75 percent or more of the trees, and no pine is present.

Upland hardwood-pine. Stands in which upland hardwoods comprise 75 percent or more of the trees, and some pine is present.

Bottomland hardwood. Stands in which bottomland hardwoods and cypress comprise 75 percent or more of the trees.

## Stand-size Class

Large saw timber. Stands with saw-timber trees having a net volume of at least 1,500 board feet per acre and at least half of this volume in softwoods 15.0 inches d. b. h. and larger, and hardwoods 17.0 inches d. b. h. and larger.

Small saw timber. Stands which have a net volume of at least 1,500 board feet per acre in saw-timber trees, but which do not meet the specifications for large saw timber.

Pole timber. Stands failing to meet the saw-timber specification but at least 10 percent stocked with pole-timber and larger trees (5.0 inches d. b. h. and larger) and with at least half the minimum stocking in pole-timber trees. In the South, stands of this class are commonly termed cordwood stands.

Seedling and sapling. Stands not qualifying as either saw-timber or pole-timber stands, but having at least 10 percent stocking of trees of commercial species and with at least half the minimum stocking in seedling and sapling trees.

Nonstocked and other areas. Commercial forest land not qualifying as saw timber, pole timber, or seedling and sapling stands.

## Tree Stocking

Stocking is the extent to which growing space is effectively utilized by present or potential growing-stock trees of commercial species. Stands are considered to be well stocked when the percentage of full stocking is 70 or above, medium stocked when the percentage is 40 to 69, poorly stocked when the percentage is 10 to 39, and nonstocked when the percentage is under 10.

## Volume

Saw-timber volume. Net volume in board feet, International 1/4-inch rule, in merchantable sawlogs in saw-timber trees.

Total volume. Net volume in cubic feet (inside bark) or standard cords (including bark) of live saw-timber trees, pole-timber trees, and cull trees of all species.

> Growing stock. Net volume in sawlog portion of saw-timber trees, upper stems of softwood saw-timber trees, and stems of pole-timber trees to a minimum diameter of 4 inches inside bark.
>
> Other material. Net volume in upper stems and limbs of hardwood saw-timber trees, and stems and limbs of cull trees, to a minimum diameter of 4 inches inside bark.

## Basal area

Basal area. Cross-sectional area, including bark, of trees at breast height, measured in square feet.

## Diameter

D. b. h. (diameter breast high). Tree diameter in inches, outside bark, measured at 4-1/2 feet above ground.

Diameter class. The 2-inch diameter classes extend from 1. 0 inch below to 0. 9 inch above the stated midpoint. Thus, the 12-inch class includes trees 11. 0 inches to and including 12. 9 inches d. b. h.

## Growth

Net annual growth of saw timber. The change during the inventory year in net board-foot volume of live saw timber on commercial forest land resulting from natural causes exclusive of catastrophic losses.

Net annual growth of growing stock. The change during the inventory year in net cubic-foot volume of the growing stock on commercial forest land resulting from natural causes exclusive of catastrophic losses.

## Drain

Commodity drain on saw timber. The board-foot volume of live saw-timber trees removed from commercial forest land during a specified year as timber products and logging waste.

Commodity drain on growing stock. The cubic-foot volume of live sawtimber and pole-timber trees removed from commercial forest land during a specified year as timber products and logging waste.

## Log and Tree Grade

Tree grades for softwoods:

Grade 1 (smooth[1] trees). Not less than 20 feet of clear bole and at least 40 percent of the merchantable length clear of limbs and knots in sections not less than 8 feet in length. All cedar sawlog trees were graded as No. 1.

Grade 2 (limby trees). Not less than 12 feet of clear bole and 25 to 39 percent of the merchantable length clear of limbs and knots in sections not less than 8 feet in length.

Grade 3 (rough trees). Merchantable trees below grade-2 specifications.

Log grades for hardwoods:[2]

Grade 1. Logs having, in general, five-sixths or more of their length on the 3 best faces in clear-cuttings not less than 5 feet long; they yield, on the average, at least 65 percent of their volume in No. 1 Common and better grades of lumber.

Grade 2. Logs having, in general, two-thirds or more of their length on the 3 best faces in clear-cuttings not less than 3 feet long; they yield, on the average, at least 40 percent of their volume in No. 1 Common and better grades of lumber.

---

[1] Except as noted for cedar.

[2] For detailed external specifications of log grades used, see Forest Service Committee on Interim Hardwood Sawlog Grades, "Interim sawlog grades for southern hardwoods," Southern Forest Experiment Station, 9 pp., illus. Rev. 1948.

Grade 3.

--A. Logs below grade 2, having one-half or more of their length on the 3 best faces in clear-cuttings not less than 2 feet long; they yield, on the average, at least 13 percent of their volume in No. 1 Common and better grades of lumber.

--B. Logs which do not meet the clear-cutting requirements of 3A or higher grades, but which are sound, reasonably straight, and without large knots or knot clusters; they are suitable for ties or low-grade structural timbers.

## Stand Quality

Fair and better. A stand in which at least four grade-2 or better hardwood logs or softwood trees are present per acre.

Poor. A stand in which fewer than four grade-2 or better hardwood logs or softwood trees are present per acre.

## Standard Forest Survey Tables

To insure that Forest Survey statistics for the different States and major forest regions of the country are on a comparable basis, a plan for nationally standardized terminology, definitions, forest categories, and summary tables has been formulated. The survey of Arkansas' forests was partly completed before the plan was promulgated, and therefore the foregoing tables do not conform in every respect to present national standards.

Chief differences are: (1) the national standards make some changes in the forest type categories used in the foregoing tables; (2) upper-stem volume of hardwood saw-timber trees is included in growing stock under the national standards but excluded from growing stock in the foregoing tables; (3) limb volume of both merchantable and cull hardwood saw-timber trees is included in a single category under the national standards, whereas the hardwood upper stems and limbs category in the foregoing tables includes upper-stems and limb volumes of merchantable hardwood saw timber but excludes upper stems and limbs of hardwood cull trees.

There follows a set of 10 nationally standard tables in which data from the foregoing tables have been adjusted to conform as nearly as possible to the national Forest Survey standards. It will be noted that estimates of cubic volume for timber inventory, growth, and drain are all affected by this adjustment.

Table I. --Land area, by major classes of land, Arkansas, 1948-51

| Class of land | Area |
|---|---|
| | Thousand acres |
| Forest: | |
| Commercial | 19,341.8 |
| Noncommercial: | |
| Reserved from commercial timber use | 19.8 |
| Unproductive for timber use | 2.7 |
| Total | 19,364.3 |
| Nonforest[1] | 14,379.7 |
| Total, all classes | 33,744.0 |

[1] Includes some acreage of water according to Survey standards of area classification but defined by the Bureau of Census as land.

Table II. --Commercial forest land area, by ownership and stand-size classes, Arkansas, 1948-51

| Ownership class | Total | Saw-timber stands | Pole-timber stands | Seedling and sapling stands [1] |
|---|---|---|---|---|
| | Thousand acres | | | |
| Federally owned or managed: | | | | |
| National forest | 2,292.2 | 787.4 | 1,231.0 | 273.8 |
| Indian | ... | ... | ... | ... |
| Other | 521.0 | 175.0 | 204.3 | 141.7 |
| Total | 2,813.2 | 962.4 | 1,435.3 | 415.5 |
| State [2] | ... | ... | ... | ... |
| County and municipal [2] | 102.4 | 34.4 | 40.2 | 27.8 |
| Private | 16,426.2 | 5,624.1 | 7,913.1 | 2,889.0 |
| All ownership | 19,341.8 | 6,620.9 | 9,388.6 | 3,332.3 |

[1] Nonstocked and other areas included with seedling and sapling stands.

[2] Separation of State, county, and municipal not available.

Table III. --Area of commercial forest land, by major forest types, Arkansas, 1948-51

| Forest type | Thousand acres |
|---|---|
| Loblolly-shortleaf pine [1] | 3,953.6 |
| Oak-pine [2] | 3,549.6 |
| Oak-hickory | 7,441.6 |
| Oak-gum-cypress | 4,192.5 |
| Elm-ash-cottonwood | 204.5 |
| Total | 19,341.8 |

[1] Differs from national specification in that only stands with 75 percent or more pine are included.

[2] Differs from national specification in that stands with 25 to 75 percent pine are included.

Table IV. --Net volume of live saw timber and growing stock on commercial forest land, by stand-size class, Arkansas, 1948-51

| Stand-size class | Saw timber | Growing stock |
|---|---|---|
| | Million board feet | Million cubic feet |
| Saw-timber stands | 28,053.5 | 7,179.5 |
| Pole-timber stands | 7,967.4 | 3,627.5 |
| Seedling and sapling stands | 739.4 | 279.6 |
| Nonstocked and other areas not elsewhere classified | 38.3 | 13.2 |
| Total | 36,798.6 | 11,099.8 |

Table V.--Net volume of live saw timber and growing stock on commercial forest land, by ownership class, Arkansas, 1948-51

| Ownership class | Saw timber | Growing stock |
|---|---|---|
| | Million board feet | Million cubic feet |
| Federally owned or managed: | | |
| National forest | 4,229.2 | 1,184.5 |
| Indian | ... | ... |
| Other | 869.6 | 256.2 |
| Total | 5,098.8 | 1,440.7 |
| State ) 1/ | ... | ... |
| County and municipal) | 170.9 | 50.3 |
| Private: | | |
| Farm ) 2/ | ... | ... |
| Industrial and other) | ... | ... |
| Total | 31,528.9 | 9,608.8 |
| All ownerships | 36,798.6 | 11,099.8 |

1/ Separation between State, county, and municipal not available.

2/ Separation between farm, industrial, and other not available.

Table VI.--Net volume of live saw timber and growing stock on commercial forest land, by species, Arkansas, 1948-51

| Species | Saw timber | Growing stock |
|---|---|---|
| | Million board feet | Million cubic feet |
| Softwoods: | | |
| Shortleaf and loblolly pines | 16,021.5 | 3,949.7 |
| Cypress | 731.1 | 155.3 |
| Other eastern softwoods | 22.8 | 17.6 |
| Total | 16,775.4 | 4,122.6 |
| Hardwoods: | | |
| White oaks (Q. alba and prinus) | 2,089.7 | 746.3 |
| Red oaks (Q. borealis and falcata var. pagodaefolia) | 1,148.3 | 360.2 |
| Other white oaks | 2,688.5 | 983.5 |
| Other red oaks | 4,878.8 | 1,667.3 |
| Sugar maple | 31.8 | 9.4 |
| Soft maples | 137.6 | 59.3 |
| Beech | 83.5 | 25.0 |
| Sweetgum | 2,580.9 | 907.2 |
| Tupelo and blackgum | 1,255.3 | 370.0 |
| Ash | 419.7 | 153.3 |
| Hickory | 1,907.7 | 746.7 |
| Cottonwood and aspen | 349.3 | 92.8 |
| Basswood | 12.8 | 3.4 |
| Yellow-poplar | 5.0 | 1.2 |
| Black walnut | 39.4 | 13.3 |
| Other eastern hardwoods | 2,394.9 | 838.3 |
| Total | 20,023.2 | 6,977.2 |
| All species | 36,798.6 | 11,099.8 |

Table VII. --Net volume of live saw timber on commercial forest land, by diameter class groups and species, Arkansas, 1948-50

| Species | Diameter class groups | | | | | | Total |
|---|---|---|---|---|---|---|---|
| | 10 inches | 12 inches | 14 inches | 16 inches | 18 inches | 20 inches and up | |
| | - - - - - - - - - - | Million board feet | - - - - - - - - - - | | | | |
| Southern yellow pines | 3,206.8 | 3,784.9 | 3,338.9 | 2,583.4 | 1,514.6 | 1,592.9 | 16,021.5 |
| White and red pines | ... | ... | ... | ... | ... | ... | ... |
| Other eastern softwoods | 67.6 | 125.4 | 101.8 | 157.4 | 103.0 | 198.7 | 753.9 |
| | | | | | | | |
| White oaks (*Q.* *alba* and *prinus*) | ... | 463.7 | 527.5 | 367.3 | 299.5 | 431.7 | 2,089.7 |
| Other white oaks | ... | 511.9 | 507.6 | 481.0 | 321.3 | 866.7 | 2,688.5 |
| Red oaks (*Q.* *borealis* and *falcata* var. *pagodaefolia*) | ... | 227.1 | 259.6 | 212.3 | 165.2 | 284.1 | 1,148.3 |
| Other red oaks | ... | 1,025.1 | 1,044.2 | 804.3 | 678.4 | 1,326.8 | 4,878.8 |
| | | | | | | | |
| Yellow birch | ... | ... | ... | ... | ... | ... | ... |
| Sugar maple | ... | 7.4 | 5.2 | 4.8 | 1.7 | 12.7 | 31.8 |
| Beech | ... | 4.7 | 13.1 | 20.3 | 15.0 | 30.4 | 83.5 |
| | | | | | | | |
| Sweetgum | ... | 560.6 | 646.2 | 470.3 | 378.1 | 525.7 | 2,580.9 |
| Tupelo and blackgum | ... | 180.2 | 240.6 | 237.2 | 211.5 | 385.8 | 1,255.3 |
| Yellow-poplar | ... | ... | ... | 2.1 | ... | 2.9 | 5.0 |
| Other eastern hardwoods | ... | 1,062.1 | 1,083.9 | 960.3 | 767.5 | 1,387.6 | 5,261.4 |

Table VIII. --Net volume of all timber on commercial forest land, by class of material and species group, Arkansas, 1948-51

| Class of material | Total | Softwoods | Hardwoods |
|---|---|---|---|
| | - - - - Million cubic feet - - - - | | |
| Growing stock: | | | |
| Saw-timber trees: | | | |
| Sawlog portion | 5,941.7 | 2,772.4 | 3,169.3 |
| Upper stem portion | 1,636.9 | 338.8 | 1,298.1 |
| Total | 7,578.6 | 3,111.2 | 4,467.4 |
| Pole-timber trees | 3,521.2 | 1,011.4 | 2,509.8 |
| Total growing stock | 11,099.8 | 4,122.6 | 6,977.2 |
| Other material: | | | |
| Sound cull trees | 1,472.3 | 41.4 | 1,430.9 |
| Rotten cull trees | 1,200.6 | 19.5 | 1,181.1 |
| Hardwood limbs | 1,061.3 | ... | 1,061.3 |
| Salvable dead trees | 61.3 | 26.3 | 35.0 |
| Total other material | 3,795.5 | 87.2 | 3,708.3 |
| Total, all timber | 14,895.3 | 4,209.8 | 10,685.5 |

Table IX. --Net annual growth, annual mortality, and commodity drain on live saw timber and growing stock on commercial forest land, by species groups, Arkansas, 1948

| Item | Saw timber | | | Growing stock | | |
|---|---|---|---|---|---|---|
| | Total | Softwoods | Hardwoods | Total | Softwoods | Hardwoods |
| | Million board feet | | | Million cubic feet | | |
| Net annual growth | 2,180.8 | 1,168.4 | 1,012.4 | 614.4 | 258.8 | 355.6 |
| Annual mortality | 220.8 | 100.7 | 120.1 | 77.2 | 27.8 | 49.4 |
| Commodity drain | | | | | | |
| Timber products | 1,909.6 | 1,000.7 | 908.9 | 381.0 | 206.7 | 174.3 |
| Logging waste | 145.6 | 35.1 | 110.5 | 96.4 | 26.7 | 69.7 |
| Total commodity drain | 2,055.2 | 1,035.8 | 1,019.4 | 477.4 | 233.4 | 244.0 |

Table X. --Total output of timber products and commodity drain on live saw timber and growing stock, Arkansas, 1948

| Product | Volume of products cut[1] |  |  | Commodity drain on saw timber |  |  | Commodity drain on growing stock |  |  |
|---|---|---|---|---|---|---|---|---|---|
|  | Standard unit | Number | M cu. ft. | Total | Soft-woods | Hard-woods | Total | Soft-woods | Hard-woods |
|  |  |  |  | Million board feet |  |  | Million cubic feet |  |  |
| Sawlogs | MBM[2] | 1,430,000 | 226,288 | 1,449.8 | 901.9 | 547.9 | 294.4 | 175.7 | 118.7 |
| Veneer logs and bolts | MBM[2] | 71,000 | 9,917 | 81.6 | ... | 81.6 | 17.6 | ... | 17.6 |
| Cooperage logs and bolts | MBM[2] | 46,000 | 6,587 | 65.6 | ... | 65.6 | 14.3 | ... | 14.3 |
| Pulpwood logs | MBM[2] | ... | ... | ... | ... | ... | ... | ... | ... |
| Pulpwood bolts | Std. cords[3] | 616,000 | 46,621 | 66.6 | 60.5 | 6.1 | 41.2 | 38.1 | 3.1 |
| Fuel wood | Std. cords[3] | 1,349,000 | 101,228 | 243.9 | 38.1 | 205.8 | 65.8 | 8.1 | 57.7 |
| Piling | M linear feet | 828 | 580 | 3.3 | 3.3 | ... | 0.7 | 0.7 | ... |
| Poles | M pieces | 261 | 3,286 | 18.9 | 18.9 | ... | 3.9 | 3.9 | ... |
| Posts | M pieces | 16,771 | 10,565 | 30.2 | 0.6 | 29.6 | 12.5 | 4.0 | 8.5 |
| Hewn ties | M pieces | 736 | 5,170 | 38.9 | 1.7 | 37.2 | 8.9 | .4 | 8.5 |
| Mine timbers | M cu. ft. | 506 | 506 | 0.4 | .4 | ... | .5 | .3 | 0.2 |
| Miscellaneous[4] | M cu. ft. | 12,656 | 12,656 | 56.0 | 10.4 | 45.6 | 17.6 | 2.2 | 15.4 |
| Total |  |  | 423,404 | 2,055.2 | 1,035.8 | 1,019.4 | 477.4 | 233.4 | 244.0 |

1/ Includes material from both growing stock and other miscellaneous sources.

2/ International 1/4-inch rule.

3/ Rough wood basis.

4/ Includes chemical wood, excelsior, handle stock, shingle bolts, etc.

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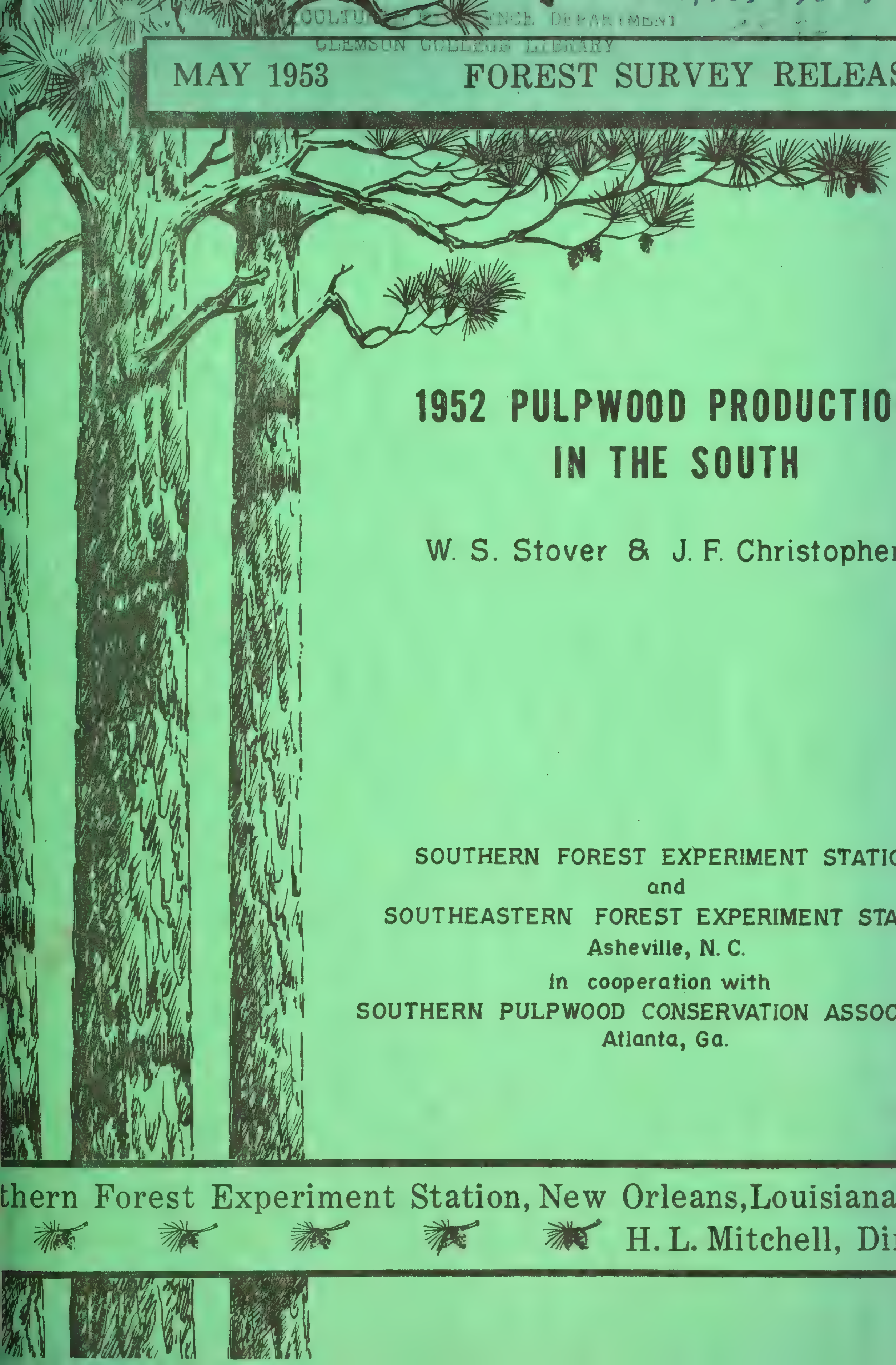

# 1952 PULPWOOD PRODUCTION IN THE SOUTH

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and
SOUTHEASTERN FOREST EXPERIMENT STATION
Asheville, N. C.
in cooperation with
SOUTHERN PULPWOOD CONSERVATION ASSOCIATION
Atlanta, Ga.

thern Forest Experiment Station, New Orleans, Louisiana
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## PREFACE

Through the McSweeney-McNary Act of 1928, Congress authorized the Secretary of Agriculture to conduct a survey of the forest resources of the United States. The Forest Survey was organized by the Forest Service to carry out the provisions of the Act. The Southeastern Forest Experiment Station, Asheville, North Carolina, is responsible for the work in Virginia, North Carolina, South Carolina, Georgia, and Florida. The Southern Forest Experiment Station, New Orleans, Louisiana, directs the work in Alabama, Arkansas, Louisiana, Mississippi, Oklahoma, Tennessee, and Texas.

The work of the Survey is divided into five major phases:

1. Inventory. Determination of the extent, location, and condition of forest lands, and the quantity, species, and quality of timber on these lands.

2. Growth. Determination of the current rate of timber growth.

3. Drain. Determination of the amount of industrial and domestic wood used, and the total loss resulting from fire, insects, disease, suppression, and other causes.

4. Requirements. Determination of the current and probable future requirements for forest products by all classes of consumers.

5. Policies and plans. Analysis of the relation of these findings to one another and to other economic factors as a basis for public and private policies and plans of forest land use and management.

## ACKNOWLEDGMENT

The statistics presented herein are based upon reports furnished by the wood procurement officials representing 67 mills located in, or drawing wood from the South. Reports showed either production by county or by shipping points which were used to assign production to counties. County data are approximate, but totals for small groups of counties should have little error.

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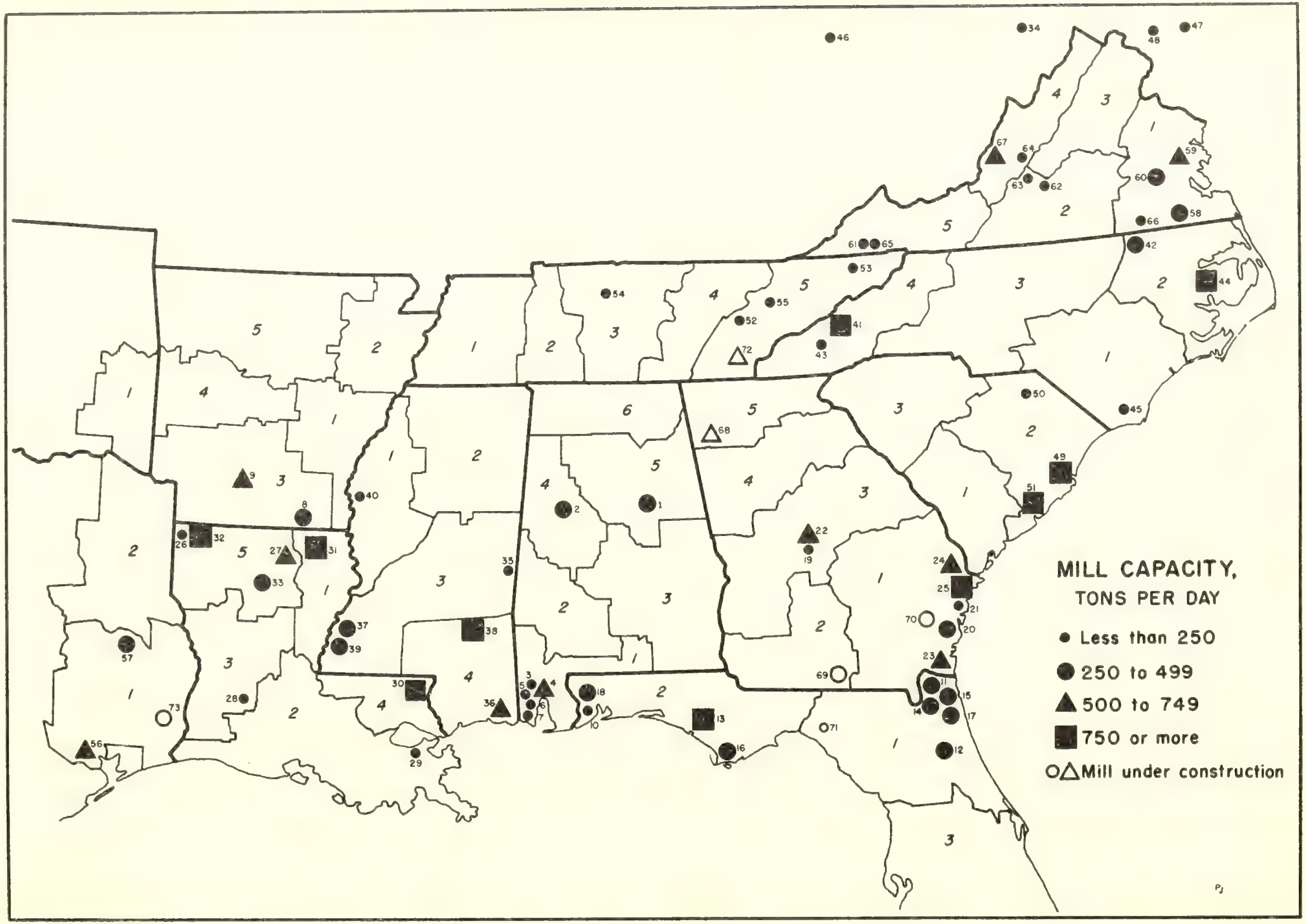

Figure 1.—Pulp mills drawing wood from the South, 1952. Numbered areas are Forest Survey regions. Small numbers at mill locations correspond to numbers in tables 16 and 17.

# 1952 PULPWOOD PRODUCTION IN THE SOUTH

In 1952, pulpwood production in the South reached still another new high. The total harvest was 14,564,900 cords, an increase of 3.6 percent over 1951, and 17.1 percent over 1950. The cut of pine pulpwood was 12,782,700 cords, of hardwood 1,691,100 cords, and of dead chestnut 91,100 cords. Pine production was 2.7 percent greater than in 1951, hardwood 16.5 percent greater, and dead chestnut 45.7 percent less. Since total 1952 receipts of domestic pulpwood at all mills in the United States were 25,045,000 cords (according to a preliminary report by the Bureau of the Census), the South produced 58 percent of the pulpwood cut in the Nation.

At the close of 1952, the South had 63 pulpmills, with a total pulping capacity of 26,865 tons per day. Four additional mills were drawing wood from the region, and six new southern mills were under construction (fig. 1).

Georgia was the largest southern producer (fig. 2), accounting for 17 percent of the South's and 10 percent of the Nation's cut (table 1). All southern States except Oklahoma and Virginia showed an increase in output over 1951. The largest increase was in Alabama (table 2). Thirty-nine counties, distributed throughout the South, had cuts of over 60,000

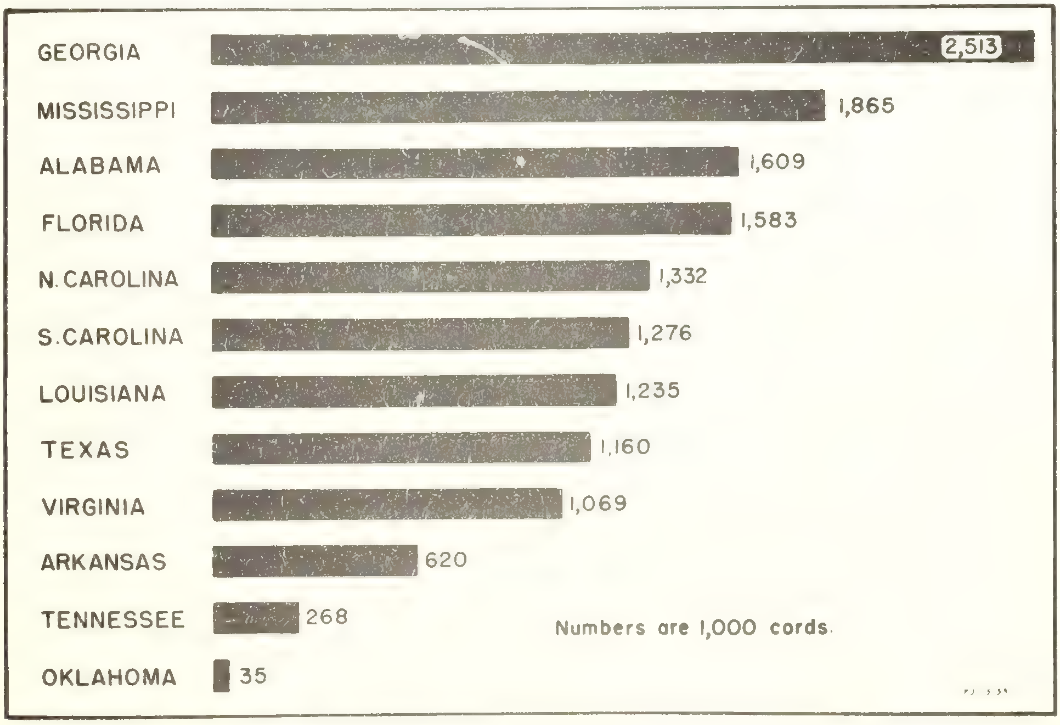

Figure 2.--Pulpwood production in the South, 1952.

cords apiece (figs. 3 and 4, pp. 35-36). Baldwin County, Alabama, led with almost 130,000 cords. The other four leading counties were Livingston (parish) in Louisiana, Georgetown in South Carolina, Copiah in Mississippi, and Alachua in Florida.

Table 1.--Pulpwood production in the South by State and species group, 1951 and 1952

(In thousand cords)

| State | 1952 | | | | 1951 | | |
|---|---|---|---|---|---|---|---|
| | Percent change from 1951 | Total | Pine | Hardwood1/ | Total | Pine | Hardwood2/ |
| Ala. | +14.4 | 1,608.6 | 1,581.0 | 27.6 | 1,406.2 | 1,392.2 | 14.0 |
| Ark. | + 1.0 | 619.7 | 524.3 | 95.4 | 613.8 | 521.8 | 92.0 |
| Fla. | + 6.2 | 1,583.3 | 1,581.4 | 1.9 | 1,490.3 | 1,489.2 | 1.1 |
| Ga. | + 6.0 | 2,513.3 | 2,400.5 | 112.8 | 2,370.1 | 2,278.8 | 91.3 |
| La. | +11.1 | 1,234.7 | 1,089.0 | 145.7 | 1,111.0 | 997.2 | 113.8 |
| Miss. | + 4.0 | 1,864.9 | 1,332.6 | 532.3 | 1,793.4 | 1,412.2 | 381.2 |
| N. C. | + 2.1 | 1,332.3 | 1,085.4 | 246.9 | 1,304.6 | 1,053.6 | 251.0 |
| Okla. | -21.7 | 34.9 | 34.9 | ... | 44.6 | 44.6 | ... |
| S. C. | + 2.0 | 1,275.7 | 1,132.5 | 143.2 | 1,251.0 | 1,105.2 | 145.8 |
| Tenn. | +40.3 | 268.5 | 97.8 | 170.7 | 191.4 | 60.4 | 131.0 |
| Tex. | + .1 | 1,159.9 | 1,092.8 | 67.1 | 1,158.4 | 1,097.8 | 60.6 |
| Va. | -19.4 | 1,069.1 | 830.5 | 238.6 | 1,326.3 | 989.2 | 337.1 |
| All | + 3.6 | 14,564.9 | 12,782.7 | 1,782.2 | 14,061.1 | 12,442.2 | 1,618.9 |

1/ Includes 91,100 cords of chestnut.

2/ Includes 167,700 cords of chestnut.

Note: Total southern production, for the years 1946-1952, was as follows (in thousand cords):

| Year | Total | Pine | Hardwood (inc. dead chestnut) |
|---|---|---|---|
| 1946 | 8,834.9 | 7,624.6 | 1,210.3 |
| 1947 | 9,241.9 | 8,085.4 | 1,156.5 |
| 1948 | 11,358.9 | 10,088.2 | 1,270.7 |
| 1949 | 9,923.1 | 8,944.9 | 978.2 |
| 1950 | 12,435.7 | 11,170.4 | 1,265.3 |
| 1951 | 14,061.1 | 12,442.2 | 1,618.9 |
| 1952 | 14,564.9 | 12,782.7 | 1,782.2 |

Table 2. --Pulpwood production in the Southeastern Station territory by State and Survey unit, 1952

| State | Forest survey unit [1] | Species group | | | Total |
|---|---|---|---|---|---|
| | | Pine | Hardwood | Chestnut | |
| | Number | - - - - - - - - - - | Standard cords | - - - - - - - - - - | - - - - - |
| Virginia | 1 | 277,936 | 20,338 | ... | 298,274 |
| | 2 | 374,273 | 82,534 | ... | 456,807 |
| | 3 | 136,336 | 42,224 | ... | 178,560 |
| | 4 | 38,159 | 68,190 | ... | 106,349 |
| | 5 | 3,821 | 14,597 | 10,721 | 29,139 |
| | All units | 830,525 | 227,883 | 10,721 | 1,069,129 |
| North Carolina | 1 | 396,165 | 32,728 | ... | 428,893 |
| | 2 | 183,248 | 12,110 | ... | 195,358 |
| | 3 | 308,504 | 29,635 | ... | 338,139 |
| | 4 | 197,499 | 143,900 | 28,514 | 369,913 |
| | All units | 1,085,416 | 218,373 | 28,514 | 1,332,303 |
| South Carolina | 1 | 162,148 | 40,086 | ... | 202,234 |
| | 2 | 425,479 | 72,813 | ... | 498,292 |
| | 3 | 544,854 | 30,318 | ... | 575,172 |
| | All units | 1,132,481 | 143,217 | ... | 1,275,698 |
| Georgia | 1 | 1,169,878 | 71,096 | ... | 1,240,974 |
| | 2 | 343,157 | 24,643 | ... | 367,800 |
| | 3 | 521,380 | 5,004 | ... | 526,384 |
| | 4 | 310,345 | 712 | ... | 311,057 |
| | 5 | 55,737 | 4,386 | 6,934 | 67,057 |
| | All units | 2,400,497 | 105,841 | 6,934 | 2,513,272 |
| Florida | 1 | 1,000,134 | 499 | ... | 1,000,633 |
| | 2 | 362,292 | 1,442 | ... | 363,734 |
| | 3 | 177,070 | ... | ... | 177,070 |
| | 4 | 41,904 | ... | ... | 41,904 |
| | All units | 1,581,400 | 1,941 | ... | 1,583,341 |
| All States | .. | 7,030,319 | 697,255 | 46,169 | 7,773,743 |

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[1] For location of Survey units, see Figure 1.

Table 3.--Pulpwood production in the Southern Station territory by State and Survey unit, 1952

| State | Forest survey unit[1] | Species group | | | Total |
|---|---|---|---|---|---|
| | | Pine | Hardwood | Chestnut | |
| | Number | - - - - - - - - - | Standard cords | - - - - - - - - - - - | |
| Alabama | 1 | 348,526 | 3,800 | ... | 352,326 |
| | 2 | 279,933 | 5,562 | ... | 285,495 |
| | 3 | 526,299 | 9,629 | ... | 535,928 |
| | 4 | 225,923 | 5,764 | ... | 231,687 |
| | 5 | 187,657 | 2,108 | ... | 189,765 |
| | 6 | 12,651 | 757 | ... | 13,408 |
| | All units | 1,580,989 | 27,620 | ... | 1,608,609 |
| Arkansas | 1 | 21,733 | 33,809 | ... | 55,542 |
| | 2 | ... | ... | ... | ... |
| | 3 | 418,401 | 55,747 | ... | 474,148 |
| | 4 | 72,907 | 3,087 | ... | 75,994 |
| | 5 | 11,226 | 2,760 | ... | 13,986 |
| | All units | 524,267 | 95,403 | ... | 619,670 |
| Louisiana | 1 | 11,837 | 55,587 | ... | 67,424 |
| | 2 | 58,705 | 11,931 | ... | 70,636 |
| | 3 | 244,949 | 12,442 | ... | 257,391 |
| | 4 | 266,900 | 11,082 | ... | 277,982 |
| | 5 | 506,625 | 54,689 | ... | 561,314 |
| | All units | 1,089,016 | 145,731 | ... | 1,234,747 |
| Mississippi | 1 | 20,000 | 50,190 | ... | 70,190 |
| | 2 | 82,917 | 50,032 | ... | 132,949 |
| | 3 | 787,974 | 310,396 | ... | 1,098,370 |
| | 4 | 441,694 | 121,674 | ... | 563,368 |
| | All units | 1,332,585 | 532,292 | ... | 1,864,877 |
| Oklahoma | All units | 34,870 | ... | ... | 34,870 |

Table 3.--Pulpwood production in the Southern Station territory by State and Survey unit, 1952 (continued)

| State | Forest survey unit[1] | Species group | | | Total |
|---|---|---|---|---|---|
| | | Pine | Hardwood | Chestnut | |
| | Number | - - - - - - - - - Standard cords | - - - - - - - - - | | |
| Tennessee | 1 | ... | 10,740 | ... | 10,740 |
| | 2 | 104 | 6,570 | 9,072 | 15,746 |
| | 3 | ... | 2,276 | 8,062 | 10,338 |
| | 4 | 14,478 | 62,228 | 21,150 | 97,856 |
| | 5 | 83,201 | 43,880 | 6,677 | 133,758 |
| | All units | 97,783 | 125,694 | 44,961 | 268,438 |
| Texas | 1 | 641,090 | 53,018 | ... | 694,108 |
| | 2 | 427,628 | 13,680 | ... | 441,308 |
| | 3 | 24,099 | 403 | ... | 24,502 |
| | All units | 1,092,817 | 67,101 | ... | 1,159,918 |
| All States | ... | 5,752,327 | 993,841 | 44,961 | 6,791,129 |

[1] For location of Survey units, see Figure 1.

Table 4.--Pulpwood production in Alabama, 1952

| County | Pine | Hardwood | Total |
|---|---|---|---|
| | - - - - - - - - | Standard cords | - - - - - - - - |
| Autauga | 6,173 | ... | 6,173 |
| Baldwin | 129,683 | 282 | 129,965 |
| Barbour | 19,249 | 30 | 19,279 |
| Bibb | 32,844 | 1,090 | 33,934 |
| Blount | 13,090 | ... | 13,090 |
| Bullock | 22,288 | 108 | 22,396 |
| Butler | 37,378 | 1,037 | 38,415 |
| Calhoun | 3,717 | 354 | 4,071 |
| Chambers | 46,483 | ... | 46,483 |
| Cherokee | 2,242 | ... | 2,242 |
| Chilton | 16,594 | 2,075 | 18,669 |
| Choctaw | 47,333 | 495 | 47,828 |
| Clarke | 60,956 | 779 | 61,735 |
| Clay | 9,399 | ... | 9,399 |
| Cleburne | 5,888 | ... | 5,888 |
| Coffee | 31,602 | ... | 31,602 |
| Colbert | 228 | ... | 228 |
| Conecuh | 17,120 | 88 | 17,208 |
| Coosa | 36,165 | ... | 36,165 |
| Covington | 32,747 | 535 | 33,282 |
| Crenshaw | 12,045 | ... | 12,045 |
| Cullman | 4,366 | ... | 4,366 |
| Dale | 10,417 | ... | 10,417 |
| Dallas | 31,581 | 835 | 32,416 |
| Dekalb | 2,505 | ... | 2,505 |
| Elmore | 40,005 | ... | 40,005 |
| Escambia | 33,282 | 191 | 33,473 |
| Etowah | 8,523 | 456 | 8,979 |
| Fayette | 30,134 | 2,503 | 32,637 |
| Franklin | 3,149 | 571 | 3,720 |
| Geneva | 6,028 | 16 | 6,044 |
| Greene | 13,181 | 39 | 13,220 |
| Hale | 20,190 | 465 | 20,655 |
| Henry | 17,383 | ... | 17,383 |
| Houston | 6,728 | ... | 6,728 |
| Jackson | 223 | ... | 223 |
| Jefferson | 4,828 | ... | 4,828 |
| Lamar | 6,493 | 490 | 6,983 |

Table 4. --Pulpwood production in Alabama, 1952 (continued)

| County | Pine | Hardwood | Total |
|---|---|---|---|
| | - - - - - - - Standard cords - - - - - - - - - | | |
| Lauderdale | 2,504 | . . | 2,504 |
| Lawrence | . . . | . . | . . . |
| Lee | 45,348 | 18 | 45,366 |
| Limestone | . . . | . . . | . . . |
| Lowndes | 35,821 | 4,271 | 40,092 |
| Macon | 25,638 | . . . | 25,638 |
| Madison | 30 | 27 | 57 |
| Marengo | 37,046 | 908 | 37,954 |
| Marion | 7,832 | 79 | 7,911 |
| Marshall | 3,111 | 159 | 3,270 |
| Mobile | 70,224 | 620 | 70,844 |
| Monroe | 49,700 | 221 | 49,921 |
| Montgomery | 31,100 | 761 | 31,861 |
| Morgan | 901 | . . . | 901 |
| Perry | 24,352 | 983 | 25,335 |
| Pickens | 29,333 | 115 | 29,448 |
| Pike | 17,270 | 307 | 17,577 |
| Randolph | 19,692 | . . | 19,692 |
| Russell | 13,647 | 171 | 13,818 |
| St. Clair | 17,729 | . . . | 17,729 |
| Shelby | 22,693 | 114 | 22,807 |
| Sumter | 24,973 | 2,367 | 27,340 |
| Talladega | 10,953 | . . | 10,953 |
| Tallapoosa | 53,521 | . . . | 53,521 |
| Tuscaloosa | 61,564 | . . | 61,564 |
| Walker | 24,687 | 247 | 24,934 |
| Washington | 82,590 | 2,172 | 84,762 |
| Wilcox | 42,805 | 704 | 43,509 |
| Winston | 3,685 | 937 | 4,622 |
| Total | 1,580,989 | 27,620 | 1,608,609 |

Table 5.--Pulpwood production in Arkansas, 1952

| County | Pine | Hardwood | Total |
|---|---|---|---|
| | - - - - - - - - Standard cords - - - - - - - - | | |
| Arkansas | ... | ... | ... |
| Ashley | 12,921 | 8,332 | 21,253 |
| Baxter | ... | ... | ... |
| Benton | ... | ... | ... |
| Boone | ... | ... | ... |
| Bradley | 22,422 | 2,198 | 24,620 |
| Calhoun | 29,536 | 143 | 29,679 |
| Carroll | ... | ... | ... |
| Chicot | ... | 3,855 | 3,855 |
| Clark | 32,874 | 5,277 | 38,151 |
| Clay | ... | ... | ... |
| Cleburne | ... | ... | ... |
| Cleveland | 14,478 | 229 | 14,707 |
| Columbia | 20,107 | 748 | 20,855 |
| Conway | 420 | 17 | 437 |
| Craighead | ... | ... | ... |
| Crawford | ... | ... | ... |
| Crittenden | ... | ... | ... |
| Cross | ... | ... | ... |
| Dallas | 22,409 | 3,085 | 25,494 |
| Desha | ... | 13,507 | 13,507 |
| Drew | 9,637 | 10,238 | 19,875 |
| Faulkner | 510 | 34 | 544 |
| Franklin | ... | ... | ... |
| Fulton | ... | ... | ... |
| Garland | 12,195 | 450 | 12,645 |
| Grant | 37,506 | 954 | 38,460 |
| Greene | ... | ... | ... |
| Hempstead | 16,650 | 1,143 | 17,793 |
| Hot Spring | 17,158 | 1,895 | 19,053 |
| Howard | 7,614 | 1,883 | 9,497 |
| Independence | 57 | 19 | 76 |
| Izard | 118 | ... | 118 |
| Jackson | ... | ... | ... |
| Jefferson | 16,227 | 268 | 16,495 |
| Johnson | 4,014 | 1,369 | 5,383 |
| Lafayette | 30,039 | 479 | 30,518 |
| Lawrence | ... | ... | ... |

Table 5.--Pulpwood production in Arkansas, 1952 (continued)

| County | Pine | Hardwood | Total |
|---|---|---|---|
| | - - - - - - - - Standard cords - - - - - - - - | | |
| Lee | ... | 2,789 | 2,789 |
| Lincoln | 4,984 | 6,530 | 11,514 |
| Little River | 9,718 | .. | 9,718 |
| Logan | 3,630 | ... | 3,630 |
| Lonoke | 49 | 31 | 80 |
| Madison | ... | ... | ... |
| Marion | ... | ... | .. |
| Miller | 8,452 | 393 | 8,845 |
| Mississippi | ... | .. | ... |
| Monroe | 473 | ... | 473 |
| Montgomery | 1,857 | ... | 1,857 |
| Nevada | 10,498 | 502 | 11,000 |
| Newton | ... | ... | ... |
| Ouachita | 30,547 | 4,154 | 34,701 |
| Perry | 5,465 | 152 | 5,617 |
| Phillips | ... | 6,829 | 6,829 |
| Pike | 25,087 | 1,816 | 26,903 |
| Poinsett | ... | ... | ... |
| Polk | 13,557 | ... | 13,557 |
| Pope | 6,107 | 423 | 6,530 |
| Prairie | ... | .. | ... |
| Pulaski | 8,177 | 906 | 9,083 |
| Randolph | .. | ... | ... |
| St. Francis | ... | ... | ... |
| Saline | 13,411 | 1,257 | 14,668 |
| Scott | 4,566 | ... | 4,566 |
| Searcy | ... | ... | ... |
| Sebastian | 3,807 | ... | 3,807 |
| Sevier | 9,996 | 408 | 10,404 |
| Sharp | ... | ... | ... |
| Stone | ... | ... | ... |
| Union | 50,752 | 11,870 | 62,622 |
| Van Buren | ... | ... | ... |
| Washington | ... | ... | ... |
| White | ... | 898 | 898 |
| Woodruff | ... | ... | ... |
| Yell | 6,242 | 322 | 6,564 |
| Total | 524,267 | 95,403 | 619,670 |

Table 6.--Pulpwood production in Florida, 1952

| County | Pine | Hardwood | Total |
|---|---|---|---|
| | Standard cords | | |
| Alachua | 98,440 | 13 | 98,453 |
| Baker | 71,629 | 43 | 71,672 |
| Bay | 16,921 | ... | 16,921 |
| Bradford | 52,510 | ... | 52,510 |
| Brevard | 8,430 | ... | 8,430 |
| Broward | 64 | ... | 64 |
| Calhoun | 29,282 | ... | 29,282 |
| Charlotte | 6,321 | ... | 6,321 |
| Citrus | 5,763 | ... | 5,763 |
| Clay | 53,146 | ... | 53,146 |
| Collier | 1,977 | ... | 1,977 |
| Columbia | 38,923 | ... | 38,923 |
| Dade | 1,136 | ... | 1,136 |
| De Soto | 6,911 | ... | 6,911 |
| Dixie | 17,712 | ... | 17,712 |
| Duval | 43,466 | 230 | 43,696 |
| Escambia | 33,684 | ... | 33,684 |
| Flagler | 28,477 | ... | 28,477 |
| Franklin | 7,380 | ... | 7,380 |
| Gadsden | 26,243 | 204 | 26,447 |
| Gilchrist | 16,506 | ... | 16,506 |
| Glades | 3,115 | ... | 3,115 |
| Gulf | 10,056 | ... | 10,056 |
| Hamilton | 60,472 | 164 | 60,636 |
| Hardee | 18,026 | ... | 18,026 |
| Hendry | 3,635 | ... | 3,635 |
| Hernando | 7,450 | ... | 7,450 |
| Highlands | 6,039 | ... | 6,039 |
| Hillsborough | 11,289 | ... | 11,289 |
| Holmes | 18,553 | ... | 18,553 |
| Indian River | 5,552 | ... | 5,552 |
| Jackson | 52,307 | 191 | 52,498 |
| Jefferson | 17,225 | 804 | 18,029 |
| Lafayette | 13,350 | ... | 13,350 |
| Lake | 14,012 | ... | 14,012 |
| Lee | 14,598 | ... | 14,598 |
| Leon | 25,792 | 45 | 25,837 |
| Levy | 29,377 | ... | 29,377 |

Table 6.--Pulpwood production in Florida, 1952 (continued)

| County | Pine | Hardwood | Total |
|---|---|---|---|
| | - - - - - - - - | Standard cords | - - - - - - - - |
| Liberty | 19,894 | ... | 19,894 |
| Madison | 23,685 | ... | 23,685 |
| Manatee | 20,170 | ... | 20,170 |
| Marion | 90,753 | ... | 90,753 |
| Martin | 7,015 | ... | 7,015 |
| Monroe | ... | ... | ... |
| Nassau | 83,508 | 4 | 83,512 |
| Okaloosa | 13,517 | ... | 13,517 |
| Okeechobee | 8,024 | ... | 8,024 |
| Orange | 10,210 | ... | 10,210 |
| Osceola | 9,980 | ... | 9,980 |
| Palm Beach | 5,090 | ... | 5,090 |
| Pasco | 7,498 | ... | 7,498 |
| Pinellas | 845 | ... | 845 |
| Polk | 15,468 | ... | 15,468 |
| Putnam | 80,724 | ... | 80,724 |
| St. Johns | 84,489 | 45 | 84,534 |
| St. Lucie | 3,554 | ... | 3,554 |
| Santa Rosa | 47,855 | 16 | 47,871 |
| Sarasota | 3,632 | ... | 3,632 |
| Seminole | 5,748 | ... | 5,748 |
| Sumter | 4,807 | ... | 4,807 |
| Suwannee | 18,727 | ... | 18,727 |
| Taylor | 23,386 | ... | 23,386 |
| Union | 17,121 | ... | 17,121 |
| Volusia | 56,282 | ... | 56,282 |
| Wakulla | 9,241 | ... | 9,241 |
| Walton | 12,517 | 63 | 12,580 |
| Washington | 21,891 | 119 | 22,010 |
| Total | 1,581,400 | 1,941 | 1,583,341 |

Table 7. --Pulpwood production in Georgia, 1952

| County | Pine | Hardwood | Chestnut | Total |
|---|---|---|---|---|
| | - - - - - - - - - - - | - Standard cords - | - - - - - - - - - - - | |
| Appling | 43,954 | 2,145 | ... | 46,099 |
| Atkinson | 38,411 | 323 | ... | 38,734 |
| Bacon | 37,947 | 87 | ... | 38,034 |
| Baker | 4,173 | ... | ... | 4,173 |
| Baldwin | 8,640 | ... | ... | 8,640 |
| Banks | 1,187 | ... | ... | 1,187 |
| Barrow | 2,710 | ... | ... | 2,710 |
| Bartow | 13,496 | 145 | ... | 13,641 |
| Ben Hill | 9,785 | 245 | ... | 10,030 |
| Berrien | 13,125 | 83 | ... | 13,208 |
| Bibb | 10,425 | ... | ... | 10,425 |
| Bleckley | 1,102 | 13 | ... | 1,115 |
| Brantley | 70,420 | 2,763 | ... | 73,183 |
| Brooks | 11,268 | 47 | ... | 11,315 |
| Bryan | 63,037 | 2,220 | ... | 65,257 |
| Bulloch | 22,140 | ... | ... | 22,140 |
| Burke | 9,894 | ... | ... | 9,894 |
| Butts | 9,818 | 37 | ... | 9,855 |
| Calhoun | 5,648 | ... | ... | 5,648 |
| Camden | 81,922 | 5,558 | ... | 87,480 |
| Candler | 9,195 | 33 | ... | 9,228 |
| Carroll | 1,366 | ... | ... | 1,366 |
| Catoosa | 17 | ... | ... | 17 |
| Charlton | 78,839 | 3 | ... | 78,842 |
| Chatham | 25,549 | 623 | ... | 26,172 |
| Chattahoochee | 11,189 | ... | ... | 11,189 |
| Chattooga | 1,104 | ... | ... | 1,104 |
| Cherokee | 2,200 | ... | ... | 2,200 |
| Clarke | 2,963 | 257 | ... | 3,220 |
| Clay | 1,435 | ... | ... | 1,435 |
| Clayton | 7,184 | ... | ... | 7,184 |
| Clinch | 83,297 | ... | ... | 83,297 |
| Cobb | 9,639 | ... | ... | 9,639 |
| Coffee | 46,847 | 766 | ... | 47,613 |
| Colquitt | 16,129 | 260 | ... | 16,389 |
| Columbia | 8,027 | 312 | ... | 8,339 |
| Cook | 3,630 | 39 | ... | 3,669 |
| Coweta | 17,709 | ... | ... | 17,709 |

Table 7.--Pulpwood production in Georgia, 1952 (continued)

| County | Pine | Hardwood | Chestnut | Total |
|---|---|---|---|---|
| | - - - - - - - - - - - | Standard cords | - - - - - - - - - - - | |
| Crawford | 14,570 | 193 | ... | 14,763 |
| Crisp | 4,130 | ... | ... | 4,130 |
| Dade | .. | .. | ... | ... |
| Dawson | ... | ... | ... | ... |
| Decatur | 36,522 | 7,794 | ... | 44,316 |
| De Kalb | 5,298 | ... | ... | 5,298 |
| Dodge | 24,241 | 2,160 | ... | 26,401 |
| Dooly | 5,710 | 66 | ... | 5,776 |
| Dougherty | 6,632 | ... | ... | 6,632 |
| Douglas | 88 | .. | ... | 88 |
| Early | 10,831 | 2,133 | ... | 12,964 |
| Echols | 24,594 | .. | ... | 24,594 |
| Effingham | 59,342 | 292 | ... | 59,634 |
| Elbert | 14,417 | 204 | ... | 14,621 |
| Emanuel | 28,694 | 554 | ... | 29,248 |
| Evans | 11,892 | 307 | ... | 12,199 |
| Fannin | 6,455 | 3,054 | 3,718 | 13,227 |
| Fayette | 6,874 | ... | ... | 6,874 |
| Floyd | 6,403 | ... | ... | 6,403 |
| Forsyth | ... | .. | ... | ... |
| Franklin | 2,158 | .. | ... | 2,158 |
| Fulton | 12,111 | ... | ... | 12,111 |
| Gilmer | 7,726 | 1,172 | 1,261 | 10,159 |
| Glascock | ... | ... | ... | ... |
| Glynn | 21,852 | 10,299 | ... | 32,151 |
| Gordon | 5,414 | .. | .. | 5,414 |
| Grady | 21,140 | 622 | .. | 21,762 |
| Greene | 21,834 | ... | ... | 21,834 |
| Gwinnett | 9,895 | ... | . | 9,895 |
| Habersham | 1,928 | . | ... | 1,928 |
| Hall | 16,278 | ... | ... | 16,278 |
| Hancock | 14,559 | 499 | ... | 15,058 |
| Haralson | 4,606 | .. | ... | 4,606 |
| Harris | 33,276 | 584 | ... | 33,860 |
| Hart | 3,616 | ... | .. | 3,616 |
| Heard | 1,957 | .. | .. | 1,957 |
| Henry | 5,455 | .. | .. | 5,455 |
| Houston | 6,685 | ... | ... | 6,685 |

Table 7.--Pulpwood production in Georgia, 1952 (continued)

| County | Pine | Hardwood | Chestnut | Total |
|---|---|---|---|---|
| | - - - - - - - - - - - | Standard cords | - - - - - - - - - - - | |
| Irwin | 18,378 | 3,200 | ... | 21,578 |
| Jackson | 15,664 | ... | ... | 15,664 |
| Jasper | 30,220 | ... | ... | 30,220 |
| Jeff Davis | 39,244 | 383 | ... | 39,627 |
| Jefferson | 5,573 | 13 | ... | 5,586 |
| Jenkins | 8,634 | 354 | ... | 8,988 |
| Johnson | 5,746 | ... | ... | 5,746 |
| Jones | 21,677 | ... | ... | 21,677 |
| Lamar | 15,186 | 64 | ... | 15,250 |
| Lanier | 21,232 | 88 | ... | 21,320 |
| Laurens | 20,079 | 1,366 | ... | 21,445 |
| Lee | 2,579 | 14 | ... | 2,593 |
| Liberty | 30,599 | 4,220 | ... | 34,819 |
| Lincoln | ... | ... | ... | ... |
| Long | 19,333 | 1,423 | ... | 20,756 |
| Lowndes | 45,178 | 209 | ... | 45,387 |
| Lumpkin | ... | ... | ... | ... |
| McDuffie | 2,130 | ... | ... | 2,130 |
| McIntosh | 30,074 | 16,132 | ... | 46,206 |
| Macon | 7,301 | 48 | ... | 7,349 |
| Madison | 14,366 | 45 | ... | 14,411 |
| Marion | 4,345 | 71 | ... | 4,416 |
| Meriwether | 22,128 | 104 | ... | 22,232 |
| Miller | 11,458 | 14 | ... | 11,472 |
| Mitchell | 23,712 | 407 | ... | 24,119 |
| Monroe | 42,855 | 12 | ... | 42,867 |
| Montgomery | 13,528 | 2,150 | ... | 15,678 |
| Morgan | 16,035 | ... | ... | 16,035 |
| Murray | 925 | ... | ... | 925 |
| Muscogee | 3,718 | ... | ... | 3,718 |
| Newton | 16,693 | ... | ... | 16,693 |
| Oconee | 7,054 | ... | ... | 7,054 |
| Oglethorpe | 21,596 | ... | ... | 21,596 |
| Paulding | 264 | ... | ... | 264 |
| Peach | 2,392 | ... | ... | 2,392 |
| Pickens | 2,187 | ... | ... | 2,187 |
| Pierce | 19,115 | 117 | ... | 19,232 |
| Pike | 10,161 | 16 | ... | 10,177 |

Table 7.--Pulpwood production in Georgia, 1952 (continued)

| County | Pine | Hardwood | Chestnut | Total |
|---|---|---|---|---|
| | | Standard cords | | |
| Polk | 7,751 | 75 | ... | 7,826 |
| Pulaski | 1,294 | 316 | ... | 1,610 |
| Putnam | 19,001 | ... | ... | 19,001 |
| Quitman | 1,187 | ... | ... | 1,187 |
| Rabun | 2,671 | ... | ... | 2,671 |
| Randolph | 4,519 | 102 | ... | 4,621 |
| Richmond | 3,084 | ... | ... | 3,084 |
| Rockdale | 6,605 | .. | ... | 6,605 |
| Schley | 3,292 | 13 | ... | 3,305 |
| Screven | 12,790 | 2,008 | ... | 14,798 |
| Seminole | 13,186 | 4,097 | ... | 17,283 |
| Spalding | 14,021 | 13 | ... | 14,034 |
| Stephens | 572 | ... | ... | 572 |
| Stewart | 6,251 | ... | ... | 6,251 |
| Sumter | 6,971 | 423 | ... | 7,394 |
| Talbot | 33,880 | 2,260 | ... | 36,140 |
| Taliaferro | 12,285 | ... | ... | 12,285 |
| Tattnall | 14,306 | 374 | ... | 14,680 |
| Taylor | 11,703 | 14 | ... | 11,717 |
| Telfair | 30,297 | 2,339 | ... | 32,636 |
| Terrell | 447 | ... | ... | 447 |
| Thomas | 32,209 | 2,902 | ... | 35,111 |
| Tift | 9,335 | 638 | ... | 9,973 |
| Toombs | 23,701 | 2,792 | ... | 26,493 |
| Towns | ... | ... | ... | ... |
| Treutlen | 12,087 | 745 | ... | 12,832 |
| Troup | 55,145 | 14 | ... | 55,159 |
| Turner | 6,176 | 883 | ... | 7,059 |
| Twiggs | 10,679 | ... | ... | 10,679 |
| Union | ... | .. | 1,955 | 1,955 |
| Upson | 15,532 | ... | ... | 15,532 |
| Walker | 721 | .. | ... | 721 |
| Walton | 3,030 | ... | ... | 3,030 |
| Ware | 47,564 | 467 | ... | 48,031 |
| Warren | 5,172 | ... | ... | 5,172 |
| Washington | 17,944 | ... | ... | 17,944 |
| Wayne | 50,062 | 6,069 | ... | 56,131 |
| Webster | 1,288 | ... | ... | 1,288 |

Table 7.--Pulpwood production in Georgia, 1952 (continued)

| County | Pine | Hardwood | Chestnut | Total |
|---|---|---|---|---|
| | Standard cords | | | |
| Wheeler | 18,686 | 2,024 | ... | 20,710 |
| White | ... | ... | ... | ... |
| Whitfield | 4,041 | 15 | ... | 4,056 |
| Wilcox | 9,271 | 593 | ... | 9,864 |
| Wilkes | 32,157 | ... | ... | 32,157 |
| Wilkinson | 9,042 | ... | ... | 9,042 |
| Worth | 16,579 | 323 | ... | 16,902 |
| Total | 2,400,497 | 105,841 | 6,934 | 2,513,272 |

Table 8.--Pulpwood production in Louisiana, 1952

| Parish | Pine | Hardwood | Total |
|---|---|---|---|
| | Standard cords | | |
| Acadia | 3,781 | 16 | 3,797 |
| Allen | 16,046 | 3,123 | 19,169 |
| Ascension | 547 | 90 | 637 |
| Assumption | 26 | ... | 26 |
| Avoyelles | 1,636 | 145 | 1,781 |
| Beauregard | 18,790 | 16 | 18,806 |
| Bienville | 48,136 | 1,177 | 49,313 |
| Bossier | 44,573 | 3,815 | 48,388 |
| Caddo | 19,794 | 3,473 | 23,267 |
| Calcasieu | 12,609 | ... | 12,609 |
| Caldwell | 53,024 | 2,758 | 55,782 |
| Cameron | ... | ... | ... |
| Catahoula | 7,367 | 6,622 | 13,989 |
| Claiborne | 38,879 | 86 | 38,965 |
| Concordia | 3 | 19,427 | 19,430 |
| De Soto | 47,064 | ... | 47,064 |
| East Baton Rouge | 1,128 | 838 | 1,966 |
| East Carroll | ... | 702 | 702 |
| East Feliciana | 21,987 | 6,527 | 28,514 |
| Evangeline | 21,923 | 1,003 | 22,926 |
| Franklin | 1,268 | 4,046 | 5,314 |
| Grant | 27,244 | 606 | 27,850 |

Table 8. --Pulpwood production in Louisiana, 1952 (continued)

| Parish | Pine | Hardwood | Total |
|---|---|---|---|
| | - - - - - - - - | Standard cords | - - - - - - - - |
| Iberia | ... | ... | ... |
| Iberville | ... | ... | ... |
| Jackson | 42,391 | 2,607 | 44,998 |
| Jefferson | ... | ... | ... |
| Jefferson Davis | 5,344 | 654 | 5,998 |
| Lafayette | ... | ... | ... |
| Lafourche | ... | ... | ... |
| La Salle | 19,490 | 2,644 | 22,134 |
| Lincoln | 28,344 | 3,823 | 32,167 |
| Livingston | 108,500 | 2,938 | 111,438 |
| Madison | 18 | 7,658 | 7,676 |
| Morehouse | 2,803 | 3,430 | 6,233 |
| Natchitoches | 34,155 | 279 | 34,434 |
| Orleans | 14 | ... | 14 |
| Ouachita | 16,145 | 3,272 | 19,417 |
| Plaquemines | ... | ... | ... |
| Pointe Coupee | ... | 110 | 110 |
| Rapides | 47,005 | 5,369 | 52,374 |
| Red River | 8,285 | ... | 8,285 |
| Richland | 268 | 3,227 | 3,495 |
| Sabine | 52,945 | 28 | 52,973 |
| St. Bernard | ... | ... | ... |
| St. Charles | ... | ... | ... |
| St. Helena | 8,299 | 400 | 8,699 |
| St. James | ... | ... | ... |
| St. John the Baptist | ... | ... | ... |
| St. Landry | 1,301 | 311 | 1,612 |
| St. Martin | ... | ... | ... |
| St. Mary | ... | 539 | 539 |
| St. Tammany | 28,391 | 252 | 28,643 |
| Tangipahoa | 57,904 | 2,881 | 60,785 |
| Tensas | ... | 8,376 | 8,376 |
| Terrebonne | ... | ... | ... |
| Union | 66,150 | 29,082 | 95,232 |
| Vermilion | ... | ... | ... |
| Vernon | 16,665 | 377 | 17,042 |
| Washington | 63,806 | 4,611 | 68,417 |

Table 8.--Pulpwood production in Louisiana, 1952 (continued)

| Parish | Pine | Hardwood | Total |
|---|---|---|---|
| | - - - - - - - - | Standard cords | - - - - - - - - - |
| Webster | 22,521 | 246 | 22,767 |
| West Baton Rouge | ... | 48 | 48 |
| West Carroll | 110 | 2,099 | 2,209 |
| West Feliciana | 1,018 | 1,650 | 2,668 |
| Winn | 71,319 | 4,350 | 75,669 |
| Total | 1,089,016 | 145,731 | 1,234,747 |

Table 9.--Pulpwood production in Oklahoma, 1952

| County [1] | Pine | Hardwood | Total |
|---|---|---|---|
| | - - - - - - - - | Standard cords | - - - - - - - - |
| Adair | 312 | ... | 312 |
| Atoka | 1,019 | ... | 1,019 |
| Choctaw | 1,726 | ... | 1,726 |
| Latimer | 7,570 | ... | 7,570 |
| Le Flore | 9,313 | ... | 9,313 |
| McCurtain | 3,731 | ... | 3,731 |
| Pushmataha | 11,199 | ... | 11,199 |
| Total | 34,870 | ... | 34,870 |

[1] Counties with no pulpwood production are omitted.

Table 10. --Pulpwood production in Mississippi, 1952

| County | Pine | Hardwood | Total |
|---|---|---|---|
| | - - - - - - - - | Standard cords | - - - - - - - - |
| Adams | 4,826 | 24,755 | 29,581 |
| Alcorn | 2,446 | 6,461 | 8,907 |
| Amite | 23,980 | 7,554 | 31,534 |
| Attala | 33,252 | 11,381 | 44,633 |
| Benton | 403 | 272 | 675 |
| Bolivar | 129 | 4,280 | 4,409 |
| Calhoun | 53 | 203 | 256 |
| Carroll | 2,941 | 1,353 | 4,294 |
| Chickasaw | 3,486 | 852 | 4,338 |
| Choctaw | 17,675 | 9,063 | 26,738 |
| Claiborne | 11,743 | 10,296 | 22,039 |
| Clarke | 52,206 | 12,440 | 64,646 |
| Clay | 1,280 | 1,129 | 2,409 |
| Coahoma | ... | 517 | 517 |
| Copiah | 71,068 | 27,822 | 98,890 |
| Covington | 17,216 | 7,928 | 25,144 |
| De Soto | ... | ... | ... |
| Forrest | 29,559 | 14,886 | 44,445 |
| Franklin | 41,130 | 19,907 | 61,037 |
| George | 25,390 | 3,146 | 28,536 |
| Greene | 35,037 | 6,309 | 41,346 |
| Grenada | 3,361 | 4,951 | 8,312 |
| Hancock | 32,290 | ... | 32,290 |
| Harrison | 22,462 | 443 | 22,905 |
| Hinds | 26,813 | 15,619 | 42,432 |
| Holmes | 18,218 | 10,477 | 28,695 |
| Humphreys | ... | 1,525 | 1,525 |
| Issaquena | ... | 10,087 | 10,087 |
| Itawamba | 66 | ... | 66 |
| Jackson | 38,578 | ... | 38,578 |
| Jasper | 65,563 | 17,628 | 83,191 |
| Jefferson | 22,131 | 17,861 | 39,992 |
| Jefferson Davis | 12,177 | 2,353 | 14,530 |
| Jones | 34,879 | 16,216 | 51,095 |
| Kemper | 18,235 | 1,720 | 19,955 |
| Lafayette | 4,870 | 1,840 | 6,710 |
| Lamar | 18,148 | 6,332 | 24,480 |
| Lauderdale | 53,700 | 12,018 | 65,718 |

Table 10.--Pulpwood production in Mississippi, 1952 (continued)

| County | Pine | Hardwood | Total |
|---|---|---|---|
| | - - - - - - - - Standard cords - - - - - - - - | | |
| Lawrence | 37,009 | 13,760 | 50,769 |
| Leake | 28,352 | 11,622 | 39,974 |
| Lee | 3,208 | 782 | 3,990 |
| Leflore | 278 | 1,762 | 2,040 |
| Lincoln | 41,172 | 13,074 | 54,246 |
| Lowndes | 2,028 | 22 | 2,050 |
| Madison | 8,679 | 3,477 | 12,156 |
| Marion | 28,279 | 11,612 | 39,891 |
| Marshall | 1,245 | 193 | 1,438 |
| Monroe | 1,949 | 223 | 2,172 |
| Montgomery | 10,840 | 5,247 | 16,087 |
| Neshoba | 15,331 | 3,659 | 18,990 |
| Newton | 38,792 | 12,908 | 51,700 |
| Noxubee | 8,635 | 1,228 | 9,863 |
| Oktibbeha | 7,904 | 3,583 | 11,487 |
| Panola | ... | 1,247 | 1,247 |
| Pearl River | 27,523 | 8,328 | 35,851 |
| Perry | 21,073 | 11,808 | 32,881 |
| Pike | 26,065 | 8,305 | 34,370 |
| Pontotoc | 974 | 155 | 1,129 |
| Prentiss | 3,406 | 802 | 4,208 |
| Quitman | ... | 108 | 108 |
| Rankin | 59,250 | 13,625 | 72,875 |
| Scott | 54,771 | 11,289 | 66,060 |
| Sharkey | 24 | 2,675 | 2,699 |
| Simpson | 35,948 | 10,307 | 46,255 |
| Smith | 7,875 | 2,921 | 10,796 |
| Stone | 19,692 | 3,923 | 23,615 |
| Sunflower | ... | 65 | 65 |
| Tallahatchie | ... | 303 | 303 |
| Tate | 78 | ... | 78 |
| Tippah | 523 | 123 | 646 |
| Tishomingo | 7,359 | 4,724 | 12,083 |
| Tunica | ... | 1,980 | 1,980 |
| Union | 1,370 | 171 | 1,541 |
| Walthall | 17,161 | 5,494 | 22,655 |
| Warren | 790 | 6,931 | 7,721 |
| Washington | ... | 8,333 | 8,333 |

Table 10. --Pulpwood production in Mississippi, 1952 (continued)

| County | Pine | Hardwood | Total |
|---|---|---|---|
| | - - - - - - - - - Standard cords | - - - - - - - | |
| Wayne | 25,221 | 9,136 | 34,357 |
| Webster | 4,296 | 2,434 | 6,730 |
| Wilkinson | 16,690 | 32,917 | 49,607 |
| Winston | 21,767 | 6,063 | 27,830 |
| Yalobusha | 1,156 | 4,202 | 5,358 |
| Yazoo | 561 | 1,147 | 1,708 |
| Total | 1,332,585 | 532,292 | 1,864,877 |

Table 11. --Pulpwood production in North Carolina, 1952

| County | Pine | Hardwood | Chestnut | Total |
|---|---|---|---|---|
| | - - - - - - - - - - - - | Standard cords | - - - - - - - - - - - | |
| Alamance | 3,048 | 100 | ... | 3,148 |
| Alexander | 2,903 | ... | ... | 2,903 |
| Alleghany | 33 | ... | . . | 33 |
| Anson | 11,048 | 3,937 | ... | 14,985 |
| Ashe | ... | 2,014 | ... | 2,014 |
| Avery | ... | 1,571 | 676 | 2,247 |
| Beaufort | 10,530 | ... | ... | 10,530 |
| Bertie | 7,668 | . . | ... | 7,668 |
| Bladen | 50,322 | 8,455 | ... | 58,777 |
| Brunswick | 46,850 | 4,311 | ... | 51,161 |
| Buncombe | 16,797 | 16,007 | 59 | 32,863 |
| Burke | 27,310 | 13,523 | ... | 40,833 |
| Cabarrus | 5,383 | 500 | ... | 5,883 |
| Caldwell | 12,282 | 1,894 | ... | 14,176 |
| Camden | ... | ... | ... | ... |
| Carteret | 8,464 | . . | ... | 8,464 |
| Caswell | ... | ... | ... | ... |
| Catawba | 5,433 | 111 | ... | 5,544 |
| Chatham | 25,951 | 296 | ... | 26,247 |
| Cherokee | 25,493 | 13,044 | 998 | 39,535 |
| Chowan | ... | ... | ... | ... |
| Clay | ... | ... | ... | ... |

Table 11.--Pulpwood production in North Carolina, 1952 (continued)

| County | Pine | Hardwood | Chestnut | Total |
|---|---|---|---|---|
| | - - - - - - - - - - | Standard cords | - - - - - - - - - - | |
| Cleveland | 6,519 | 739 | ... | 7,258 |
| Columbus | 54,264 | 5,074 | ... | 59,338 |
| Craven | 20,175 | 216 | ... | 20,391 |
| Cumberland | 10,877 | 768 | ... | 11,645 |
| Currituck | 129 | ... | ... | 129 |
| Dare | ... | ... | ... | ... |
| Davidson | 1,293 | 161 | ... | 1,454 |
| Davie | 5,113 | 904 | ... | 6,017 |
| Duplin | 25,806 | 1,601 | ... | 27,407 |
| Durham | 16,455 | 521 | ... | 16,976 |
| Edgecombe | 8,996 | 1,301 | ... | 10,297 |
| Forsyth | 316 | ... | ... | 316 |
| Franklin | 18,622 | 252 | ... | 18,874 |
| Gaston | 5,139 | 977 | ... | 6,116 |
| Gates | 5,882 | 257 | ... | 6,139 |
| Graham | 3,868 | 1,169 | ... | 5,037 |
| Granville | 9,987 | 1,451 | ... | 11,438 |
| Greene | 16 | ... | ... | 16 |
| Guilford | 956 | ... | ... | 956 |
| Halifax | 43,624 | 4,727 | ... | 48,351 |
| Harnett | 8,053 | 333 | ... | 8,386 |
| Haywood | 16,338 | 17,626 | 386 | 34,350 |
| Henderson | 12,083 | 10,485 | ... | 22,568 |
| Hertford | 3,649 | 1,630 | ... | 5,279 |
| Hoke | 3,104 | 75 | ... | 3,179 |
| Hyde | 8,909 | ... | ... | 8,909 |
| Iredell | 17,489 | 5,307 | ... | 22,796 |
| Jackson | 28,711 | 17,500 | 14,612 | 60,823 |
| Johnston | 4,072 | 864 | ... | 4,936 |
| Jones | 3,586 | 17 | ... | 3,603 |
| Lee | 7,776 | ... | ... | 7,776 |
| Lenoir | 9,825 | ... | ... | 9,825 |
| Lincoln | 2,422 | 170 | ... | 2,592 |
| McDowell | 10,351 | 5,780 | 242 | 16,373 |
| Macon | 688 | 8,730 | 8,735 | 18,153 |
| Madison | 11,678 | 13,122 | 1,281 | 26,081 |
| Martin | 16,829 | 979 | ... | 17,808 |
| Mecklenburg | 11,059 | 498 | ... | 11,557 |

Table 11 --Pulpwood production in North Carolina, 1952 (continued)

| County | Pine | Hardwood | Chestnut | Total |
|---|---|---|---|---|
| | - - - - - - - - - - | Standard cords | - - - - - - - - - - | |
| Mitchell | 1,229 | 10,542 | 721 | 12,492 |
| Montgomery | 11,699 | 449 | ... | 12,148 |
| Moore | 15,554 | 428 | ... | 15,982 |
| Nash | 3,686 | ... | ... | 3,686 |
| New Hanover | 11,353 | 282 | ... | 11,635 |
| Northampton | 23,143 | 2,652 | ... | 25,795 |
| Onslow | 21,324 | 728 | ... | 22,052 |
| Orange | 9,279 | 778 | ... | 10,057 |
| Pamlico | 627 | ... | ... | 627 |
| Pasquotank | 2,300 | ... | ... | 2,300 |
| Pender | 27,746 | 1,773 | ... | 29,519 |
| Perquimans | ... | ... | ... | ... |
| Person | 51 | ... | ... | 51 |
| Pitt | 7,048 | 348 | ... | 7,396 |
| Polk | 331 | 145 | ... | 476 |
| Randolph | 117 | ... | ... | 117 |
| Richmond | 17,092 | 1,558 | ... | 18,650 |
| Robeson | 36,672 | 3,784 | ... | 40,456 |
| Rockingham | 3,501 | ... | ... | 3,501 |
| Rowan | 3,505 | 790 | ... | 4,295 |
| Rutherford | 16,758 | 7,260 | ... | 24,018 |
| Sampson | 26,176 | 1,772 | ... | 27,948 |
| Scotland | 6,771 | ... | ... | 6,771 |
| Stanly | 4,434 | 358 | ... | 4,792 |
| Stokes | 816 | ... | ... | 816 |
| Surry | 18,389 | 14 | ... | 18,403 |
| Swain | 7,697 | 6,164 | 804 | 14,665 |
| Transylvania | 2,236 | 2,481 | ... | 4,717 |
| Tyrrell | ... | ... | ... | ... |
| Union | 12,230 | 40 | ... | 12,270 |
| Vance | 2,016 | 73 | ... | 2,089 |
| Wake | 45,794 | 2,253 | ... | 48,047 |
| Warren | 28,735 | 1,551 | ... | 30,286 |
| Washington | 10,157 | ... | ... | 10,157 |
| Watauga | ... | ... | ... | ... |
| Wayne | 8,926 | 905 | ... | 9,831 |
| Wilkes | 20,636 | 444 | ... | 21,080 |
| Wilson | 1,647 | ... | ... | 1,647 |
| Yadkin | 1,528 | ... | ... | 1,528 |
| Yancey | 39 | 1,804 | ... | 1,843 |
| Total | 1,085,416 | 218,373 | 28,514 | 1,332,303 |

Table 12. --Pulpwood production in South Carolina, 1952

| County | Pine | Hardwood | Total |
|---|---|---|---|
| | - - - - - - - - | Standard cords | - - - - - - - - |
| Abbeville | 42,511 | 179 | 42,690 |
| Aiken | 10,250 | 264 | 10,514 |
| Allendale | 12,583 | 7,919 | 20,502 |
| Anderson | 8,679 | 14 | 8,693 |
| Bamberg | 2,430 | 1,235 | 3,665 |
| Barnwell | 7,240 | 957 | 8,197 |
| Beaufort | 19,110 | 279 | 19,389 |
| Berkeley | 48,950 | 5,366 | 54,316 |
| Calhoun | 3,770 | 880 | 4,650 |
| Charleston | 30,785 | 871 | 31,656 |
| Cherokee | 9,144 | 852 | 9,996 |
| Chester | 51,370 | 3,669 | 55,039 |
| Chesterfield | 17,926 | 15,586 | 33,512 |
| Clarendon | 11,923 | 3,581 | 15,504 |
| Colleton | 17,146 | 3,415 | 20,561 |
| Darlington | 11,922 | 3,384 | 15,306 |
| Dillon | 8,031 | 936 | 8,967 |
| Dorchester | 24,621 | 8,997 | 33,618 |
| Edgefield | 28,099 | 648 | 28,747 |
| Fairfield | 75,905 | 8,433 | 84,338 |
| Florence | 12,210 | 729 | 12,939 |
| Georgetown | 94,705 | 10,891 | 105,596 |
| Greenville | 11,786 | 63 | 11,849 |
| Greenwood | 37,900 | 183 | 38,083 |
| Hampton | 24,516 | 6,524 | 31,040 |
| Horry | 74,633 | 5,500 | 80,133 |
| Jasper | 20,534 | 1,360 | 21,894 |
| Kershaw | 28,738 | 6,994 | 35,732 |
| Lancaster | 34,721 | 823 | 35,544 |
| Laurens | 47,175 | 966 | 48,141 |
| Lee | 1,790 | 1,941 | 3,731 |
| Lexington | 13,893 | 2,713 | 16,606 |
| McCormick | 18,636 | 665 | 19,301 |
| Marion | 11,006 | 2,668 | 13,674 |
| Marlboro | 10,729 | 1,442 | 12,171 |
| Newberry | 37,456 | 3,388 | 40,844 |
| Oconee | 10,188 | 472 | 10,660 |
| Orangeburg | 6,055 | 5,543 | 11,598 |

Table 12. --Pulpwood production in South Carolina, 1952 (continued)

| County | Pine | Hardwood | Total |
|---|---|---|---|
| | Standard cords | | |
| Pickens | 7,261 | ... | 7,261 |
| Richland | 23,298 | 7,167 | 30,465 |
| Saluda | 10,556 | 1,464 | 12,020 |
| Spartanburg | 39,553 | 4,578 | 44,131 |
| Sumter | 8,078 | 343 | 8,421 |
| Union | 48,593 | 2,597 | 51,190 |
| Williamsburg | 30,755 | 4,806 | 35,561 |
| York | 25,321 | 1,932 | 27,253 |
| Total | 1,132,481 | 143,217 | 1,275,698 |

Table 13. --Pulpwood production in Tennessee, 1952

| County | Pine | Hardwood | Chestnut | Total |
|---|---|---|---|---|
| | Standard cords | | | |
| Anderson | 3,727 | 1,128 | 369 | 5,224 |
| Bedford | ... | ... | 500 | 500 |
| Benton | ... | 1,175 | ... | 1,175 |
| Bledsoe | ... | ... | ... | ... |
| Blount | 10,211 | 846 | ... | 11,057 |
| Bradley | 5,333 | 244 | ... | 5,577 |
| Campbell | 523 | 1,202 | 536 | 2,261 |
| Cannon | ... | ... | ... | ... |
| Carroll | ... | 2,926 | ... | 2,926 |
| Carter | ... | 1,264 | .... | 1,264 |
| Cheatham | ... | ... | ... | ... |
| Chester | ... | ... | ... | ... |
| Claiborne | 1,628 | 2,624 | 628 | 4,880 |
| Clay | ... | ... | ... | ... |
| Cocke | 5,848 | 5,303 | 1,448 | 12,599 |
| Coffee | ... | 2,276 | 6,270 | 8,546 |
| Crockett | ... | ... | ... | ... |
| Cumberland | ... | 20,743 | 7 | 20,750 |
| Davidson | ... | ... | ... | ... |
| Decatur | ... | ... | ... | ... |
| De Kalb | ... | ... | ... | ... |

Table 13.--Pulpwood production in Tennessee, 1952 (continued)

| County | Pine | Hardwood | Chestnut | Total |
|---|---|---|---|---|
| | - - - - - - - - - - | - Standard cords - | - - - - - - - - - - | |
| Dickson | ... | ... | ... | ... |
| Dyer | ... | ... | ... | ... |
| Fayette | ... | ... | ... | ... |
| Fentress | ... | 6,375 | 340 | 6,715 |
| Franklin | ... | 767 | ... | 767 |
| Gibson | ... | ... | ... | ... |
| Giles | ... | ... | ... | ... |
| Grainger | 18 | 1,092 | ... | 1,110 |
| Greene | 18 | ... | ... | 18 |
| Grundy | ... | 400 | ... | 400 |
| Hamblen | 30 | ... | ... | 30 |
| Hamilton | 3,898 | 59 | ... | 3,957 |
| Hancock | ... | 341 | 575 | 916 |
| Hardeman | ... | 470 | ... | 470 |
| Hardin | 104 | ... | ... | 104 |
| Hawkins | 1,401 | 1,697 | 316 | 3,414 |
| Haywood | ... | ... | ... | ... |
| Henderson | ... | 903 | ... | 903 |
| Henry | ... | 1,723 | ... | 1,723 |
| Hickman | ... | 237 | 1,067 | 1,304 |
| Houston | ... | ... | ... | ... |
| Humphreys | ... | ... | ... | ... |
| Jackson | ... | ... | ... | ... |
| Jefferson | 128 | 17 | ... | 145 |
| Johnson | ... | 955 | ... | 955 |
| Knox | 6,399 | 2,305 | 763 | 9,467 |
| Lake | ... | ... | ... | ... |
| Lauderdale | ... | ... | ... | ... |
| Lawrence | ... | 3,339 | 8,005 | 11,344 |
| Lewis | ... | 1,819 | ... | 1,819 |
| Lincoln | ... | ... | ... | ... |
| Loudon | 35 | ... | 25 | 60 |
| McMinn | 18,115 | 4,656 | 406 | 23,177 |
| McNairy | ... | ... | ... | ... |
| Macon | ... | ... | ... | ... |
| Madison | ... | 470 | ... | 470 |
| Marion | ... | ... | ... | ... |
| Marshall | ... | ... | ... | ... |

Table 13. --Pulpwood production in Tennessee, 1952 (continued)

| County | Pine | Hardwood | Chestnut | Total |
|---|---|---|---|---|
| | - - - - - - - - - - - - | Standard cords | - - - - - - - - - - - - | |
| Maury | ... | ... | ... | .. |
| Meigs | ... | 1,746 | 251 | 1,997 |
| Monroe | 9,547 | 3,558 | ... | 13,105 |
| Montgomery | ... | .. | ... | ... |
| Moore | ... | .. | ... | ... |
| Morgan | 6,551 | 1,472 | .. | 8,023 |
| Obion | .. | ... | ... | ... |
| Overton | ... | 5,174 | 16 | 5,190 |
| Perry | ... | ... | .. | ... |
| Pickett | ... | ... | .. | ... |
| Polk | 2,079 | 1,587 | ... | 3,666 |
| Putnam | ... | 14,088 | 12,783 | 26,871 |
| Rhea | 9,158 | 1,213 | .. | 10,371 |
| Roane | 5,262 | 7,837 | 230 | 13,329 |
| Robertson | ... | ... | ... | ... |
| Rutherford | .. | ... | .. | ... |
| Scott | 7,404 | 8,824 | 30 | 16,258 |
| Sequatchie | ... | 103 | ... | 103 |
| Sevier | ... | 719 | ... | 719 |
| Shelby | ... | 4,069 | ... | 4,069 |
| Smith | ... | ... | ... | ... |
| Stewart | ... | ... | . | ... |
| Sullivan | ... | 2,067 | 176 | 2,243 |
| Sumner | .. | ... | 1,267 | 1,267 |
| Tipton | ... | ... | ... | ... |
| Trousdale | .. | .. | ... | ... |
| Unicoi | 119 | 622 | ... | 741 |
| Union | 177 | 1,916 | 1,031 | 3,124 |
| Van Buren | .. | ... | .. | ... |
| Warren | ... | 2,548 | 3,403 | 5,951 |
| Washington | 70 | 84 | 484 | 638 |
| Wayne | ... | ... | ... | ... |
| Weakley | ... | 179 | ... | 179 |
| White | ... | 532 | 4,035 | 4,567 |
| Williamson | ... | ... | ... | ... |
| Wilson | ... | ... | ... | .. |
| Total | 97,783 | 125,694 | 44,961 | 268,438 |

Table 14. --Pulpwood production in Texas, 1952

| County | Pine | Hardwood | Total |
|---|---|---|---|
| | - - - - - - - - | Standard cords | - - - - - - - - |
| Anderson | 19,292 | 2,309 | 21,601 |
| Angelina | 35,160 | ... | 35,160 |
| Bowie | 13,983 | 197 | 14,180 |
| Camp | 5,661 | ... | 5,661 |
| Cass | 26,000 | 74 | 26,074 |
| Chambers | 4,290 | ... | 4,290 |
| Cherokee | 41,570 | 4,835 | 46,405 |
| Franklin | 3,203 | ... | 3,203 |
| Gregg | 15,386 | 22 | 15,408 |
| Grimes | 16,393 | 403 | 16,796 |
| Hardin | 28,835 | 2,486 | 31,321 |
| Harris | 52,870 | 600 | 53,470 |
| Harrison | 50,847 | ... | 50,847 |
| Henderson | 1,695 | ... | 1,695 |
| Houston | 62,693 | 1,866 | 64,559 |
| Jasper | 49,603 | 9,348 | 58,951 |
| Jefferson | 1,822 | 372 | 2,194 |
| Liberty | 74,307 | 1,231 | 75,538 |
| Marion | 19,426 | 67 | 19,493 |
| Montgomery | 87,085 | 8,020 | 95,105 |
| Morris | 8,983 | 125 | 9,108 |
| Nacogdoches | 51,524 | 2,314 | 53,838 |
| Newton | 28,932 | 6,249 | 35,181 |
| Orange | 16,496 | 222 | 16,718 |
| Panola | 50,927 | 621 | 51,548 |
| Polk | 41,735 | 6,161 | 47,896 |
| Red River | 8,540 | ... | 8,540 |
| Rusk | 20,519 | 753 | 21,272 |
| Sabine | 8,774 | 159 | 8,933 |
| San Augustine | 43,954 | 1,231 | 45,185 |
| San Jacinto | 13,518 | 1,324 | 14,842 |
| Shelby | 40,462 | 566 | 41,028 |
| Smith | 9,589 | 764 | 10,353 |
| Titus | 1,752 | ... | 1,752 |
| Trinity | 29,740 | ... | 29,740 |
| Tyler | 24,539 | ... | 24,539 |
| Upshur | 34,139 | 1,033 | 35,172 |
| Walker | 41,027 | 13,749 | 54,776 |
| Waller | 1,721 | ... | 1,721 |
| Wood | 5,825 | ... | 5,825 |
| Total | 1,092,817 | 67,101 | 1,159,918 |

1/Counties with no pulpwood production are omitted.

Table 15.--Pulpwood production in Virginia, 1952

| County | Pine | Hardwood | Chestnut | Total |
|---|---|---|---|---|
| | - - - - - - - - - - - | - Standard cords - | - - - - - - - - - - - | |
| Accomack | 8,404 | .... | ... | 8,404 |
| Albemarle | 27,139 | 5,021 | ... | 32,160 |
| Alleghany | 7,060 | 23,737 | ... | 30,797 |
| Amelia | 43,700 | 4,863 | ... | 48,563 |
| Amherst | 35,954 | 17,816 | ... | 53,770 |
| Appomattox | 11,655 | 3,012 | ... | 14,667 |
| Arlington | 22 | ... | ... | 22 |
| Augusta | 1,792 | 2,468 | ... | 4,260 |
| Bath | 2,128 | 13,109 | ... | 15,237 |
| Bedford | 52,357 | 13,161 | ... | 65,518 |
| Bland | .. | ... | ... | ... |
| Botetourt | 6,206 | 7,381 | ... | 13,587 |
| Brunswick | 35,320 | 5,213 | ... | 40,533 |
| Buchanan | ... | ... | ... | ... |
| Buckingham | 32,736 | 33,801 | ... | 66,537 |
| Campbell | 31,861 | 3,064 | ... | 34,925 |
| Caroline | 719 | ... | ... | 719 |
| Carroll | 1,119 | ... | ... | 1,119 |
| Charles City | 12,407 | ... | ... | 12,407 |
| Charlotte | 39,413 | 266 | ... | 39,679 |
| Chesterfield | 8,598 | 1,174 | ... | 9,772 |
| Clarke | 6 | 28 | ... | 34 |
| Craig | 2,612 | 5,783 | ... | 8,395 |
| Culpeper | 8,211 | 1,303 | ... | 9,514 |
| Cumberland | 15,517 | 4,003 | ... | 19,520 |
| Dickenson | ... | ... | ... | ... |
| Dinwiddie | 13,261 | 1,472 | ... | 14,733 |
| Elizabeth City | ... | ... | ... | ... |
| Essex | 4,052 | ... | ... | 4,052 |
| Fairfax | 323 | 40 | ... | 363 |
| Fauquier | 1,305 | 421 | ... | 1,726 |
| Floyd | ... | .. | ... | ... |
| Fluvanna | 14,598 | 6,824 | ... | 21,422 |
| Franklin | 13,737 | 1,018 | ... | 14,755 |
| Frederick | 4,958 | 699 | ... | 5,657 |
| Giles | 32 | 196 | ... | 228 |
| Gloucester | 17,506 | ... | ... | 17,506 |
| Goochland | 7,046 | 1,821 | ... | 8,867 |
| Grayson | 38 | 301 | ... | 339 |

Table 15. --Pulpwood production in Virginia, 1952 (continued)

| County | Pine | Hardwood | Chestnut | Total |
|---|---|---|---|---|
| | | Standard cords | | |
| Greene | 106 | ... | ... | 106 |
| Greensville | 17,327 | 1,250 | ... | 18,577 |
| Halifax | 8,040 | 169 | ... | 8,209 |
| Hanover | 1,082 | 393 | ... | 1,475 |
| Henrico | 3,276 | 20 | ... | 3,296 |
| Henry | 18,896 | ... | ... | 18,896 |
| Highland | 278 | 2,223 | ... | 2,501 |
| Isle of Wight | 9,847 | 2,638 | ... | 12,485 |
| James City | 4,443 | ... | ... | 4,443 |
| King and Queen | 14,381 | ... | ... | 14,381 |
| King George | 422 | ... | ... | 422 |
| King William | 16,907 | ... | ... | 16,907 |
| Lancaster | 9,757 | ... | ... | 9,757 |
| Lee | ... | 4,170 | 30 | 4,200 |
| Loudoun | 161 | ... | ... | 161 |
| Louisa | 4,257 | 1,481 | ... | 5,738 |
| Lunenburg | 5,019 | 103 | ... | 5,122 |
| Madison | 989 | 144 | ... | 1,133 |
| Mathews | 353 | ... | ... | 353 |
| Mecklenburg | 12,061 | 427 | ... | 12,488 |
| Middlesex | 6,939 | ... | ... | 6,939 |
| Montgomery | 2,455 | 608 | ... | 3,063 |
| Nansemond | 4,486 | 2,311 | ... | 6,797 |
| Nelson | 22,028 | 9,356 | ... | 31,384 |
| New Kent | 15,500 | 194 | ... | 15,694 |
| Norfolk | 955 | ... | ... | 955 |
| Northampton | 1,537 | ... | ... | 1,537 |
| Northumberland | 1,051 | ... | ... | 1,051 |
| Nottoway | 9,473 | 5,401 | ... | 14,874 |
| Orange | 3,644 | 738 | ... | 4,382 |
| Page | 625 | 281 | ... | 906 |
| Patrick | ... | ... | ... | ... |
| Pittsylvania | 41,362 | 260 | ... | 41,622 |
| Powhatan | 13,270 | 3,349 | ... | 16,619 |
| Prince Edward | 25,287 | 9,637 | ... | 34,924 |
| Prince George | 7,566 | 934 | ... | 8,500 |
| Prince William | 6,897 | 12 | ... | 6,909 |
| Princess Anne | ... | ... | ... | ... |
| Pulaski | 105 | ... | ... | 105 |

Table 15.--Pulpwood production in Virginia, 1952 (continued)

| County | Pine | Hardwood | Chestnut | Total |
|---|---|---|---|---|
| | - - - - - - - - - - - | - Standard cords - | - - - - - - - - - - - | |
| Rappahannock | 418 | ... | ... | 418 |
| Richmond | 10,167 | ... | ... | 10,167 |
| Roanoke | 1,255 | ... | ... | 1,255 |
| Rockbridge | 6,200 | 11,045 | ... | 17,245 |
| Rockingham | 2,345 | 552 | ... | 2,897 |
| Russell | ... | 615 | ... | 615 |
| Scott | 16 | 2,014 | 2,486 | 4,516 |
| Shenandoah | 840 | 108 | ... | 948 |
| Smyth | ... | ... | ... | ... |
| Southampton | 12,911 | 2,670 | ... | 15,581 |
| Spotsylvania | 1,746 | ... | ... | 1,746 |
| Stafford | 1,492 | 91 | ... | 1,583 |
| Surry | 7,874 | 244 | ... | 8,118 |
| Sussex | 16,823 | 1,591 | ... | 18,414 |
| Tazewell | ... | ... | ... | ... |
| Warren | 1,854 | 776 | ... | 2,630 |
| Warwick | 4,154 | 234 | ... | 4,388 |
| Washington | ... | 3,562 | 6,554 | 10,116 |
| Westmoreland | 957 | ... | ... | 957 |
| Wise | 39 | 267 | 1,651 | 1,957 |
| Wythe | 17 | 20 | ... | 37 |
| York | 8,843 | ... | ... | 8,843 |
| Total | 830,525 | 227,883 | 10,721 | 1,069,129 |

Table 16. --Companies drawing pulpwood from the South, 1952

| State and plant location | Name of company and map code[1] | Pulp capacity 24 hrs.[2] |
|---|---|---|
| | | Tons |
| ALABAMA | | |
| Coosa Pines | ( 1) Coosa River Newsprint Co. | 454 |
| Tuscaloosa | ( 2) Gulf States Paper Corp. | 400 |
| Mobile | ( 3) Hollingsworth and Whitney Co. | 225 |
| Mobile | ( 4) International Paper Co. | 624 |
| Mobile | ( 5) National Gypsum Co. | 150 |
| Mobile | ( 6) Ruberoid Co. | 60 |
| Crichton | ( 7) Stone-Mann Paper Co.[3] | 60 |
| ARKANSAS | | |
| Crossett | ( 8) Crossett Paper Mills | 375 |
| Camden | ( 9) International Paper Co. | 600 |
| FLORIDA | | |
| Pensacola | (10) Armstrong Cork Co. | 130 |
| Fernandina | (11) Container Corp. of America | 350 |
| Palatka | (12) Hudson Pulp and Paper Corp. | 400 |
| Panama City | (13) International Paper Co. | 1,480 |
| Jacksonville | (14) National Container Corp. | 425 |
| Fernandina | (15) Rayonier, Inc. | 300 |
| Port St. Joe | (16) St. Joe Paper Co. | 400 |
| Jacksonville | (17) St. Regis Paper Co. | 330 |
| Pensacola | (18) St. Regis Paper Co. | 475 |
| GEORGIA | | |
| Macon | (19) Armstrong Cork Co. | 200 |
| Brunswick | (20) Brunswick Pulp and Paper Co. | 400 |
| Savannah | (21) Certain-teed Products Corp. | 40 |
| Macon | (22) Macon Kraft Co. | 600 |
| St. Marys | (23) St. Marys Kraft Corp. | 500 |
| Savannah | (24) Southern Paperboard Corp. | 500 |
| Savannah | (25) Union Bag and Paper Corp. | 1,400 |
| LOUISIANA | | |
| Shreveport | (26) Bird and Son | 25 |
| West Monroe | (27) The Brown Paper Mill Co. | 550 |
| Elizabeth | (28) Calcasieu Paper Co., Inc. | 200 |
| New Orleans | (29) Flintkote Co. | 45 |
| Bogalusa | (30) Gaylord Container Corp. | 935 |
| Bastrop | (31) International Paper Co. | 1,085 |
| Springhill | (32) International Paper Co. | 1,395 |
| Hodge | (33) Southern Advance Bag and Paper Co. | 325 |

Table 16.--Companies drawing pulpwood from the South, 1952 (cont.)

| State and plant location | Name of company and map code[1] | Pulp capacity 24 hrs.[2] |
|---|---|---|
| | | Tons |
| MARYLAND | | |
| Luke | (34) West Virginia Pulp and Paper Co. | 200 |
| MISSISSIPPI | | |
| Meridian | (35) Flintkote Co. | 150 |
| Moss Point | (36) International Paper Co. | 615 |
| Natchez | (37) International Paper Co. | 408 |
| Laurel | (38) Masonite Corp. | 800 |
| Natchez | (39) Johns-Manville Products Corp. | 300 |
| Greenville | (40) United States Gypsum Co. | 180 |
| N. CAROLINA | | |
| Canton | (41) Champion Paper and Fibre Co. | 800 |
| Roanoke Rapids | (42) Halifax Paper Co., Inc. | 260 |
| Sylva | (43) Mead Corp. | 160 |
| Plymouth | (44) North Carolina Pulp Co. | 800 |
| Acme | (45) Riegel-Carolina Corp. | 230 |
| OHIO | | |
| Chillicothe | (46) Mead Corp. | 125 |
| PENNSYLVANIA | | |
| York | (47) Certain-teed Products Corp. | 48 |
| Spring Grove | (48) P. H. Glatfelter Co. | 100 |
| S. CAROLINA | | |
| Georgetown | (49) International Paper Co. | 1,906 |
| Hartsville | (50) Sonoco Products Co. | 80 |
| Charleston | (51) West Virginia Pulp and Paper Co. | 850 |
| TENNESSEE | | |
| Harriman | (52) Mead Corp. | 90 |
| Kingsport | (53) Mead Corp. | 160 |
| Nashville | (54) Mead Corp. | 63 |
| Knoxville | (55) Southern Extract Co. | 67 |
| TEXAS | | |
| Pasadena | (56) Champion Paper and Fibre Co. | 520 |
| Lufkin | (57) Southland Paper Mills, Inc. | 480 |

Table 16.--Companies drawing pulpwood from the South, 1952 (cont.)

| State and plant location | Name of company and map code 1/ | Pulp capacity 24 hrs. 2/ |
|---|---|---|
| | | Tons |
| VIRGINIA | | |
| Franklin | (58) Camp Manufacturing Co., Inc. | 400 |
| West Point | (59) Chesapeake Corp. of Virginia | 500 |
| Hopewell | (60) Continental Can Co., Inc. | 400 |
| Bristol | (61) Mead Corp., Columbian Division | 85 |
| Lynchburg | (62) Mead Corp., Heald Division | 125 |
| Big Island | (63) National Container Corp. of Virginia | 150 |
| Buena Vista | (64) Piedmont Paper Products Co. | 40 |
| Bristol | (65) Schieren, Chas. A., Co. | 8 |
| Jarratt | (66) Southern Johns-Manville Products Corp. | 200 |
| Covington | (67) West Virginia Pulp and Paper Co. | 600 |

1/ Corresponds to numbers at mill locations in fig. 1.

2/ *Southern Pulp and Paper Manufacturer*, vol. 15, no. 10 (Oct. 1, 1952); and other sources.

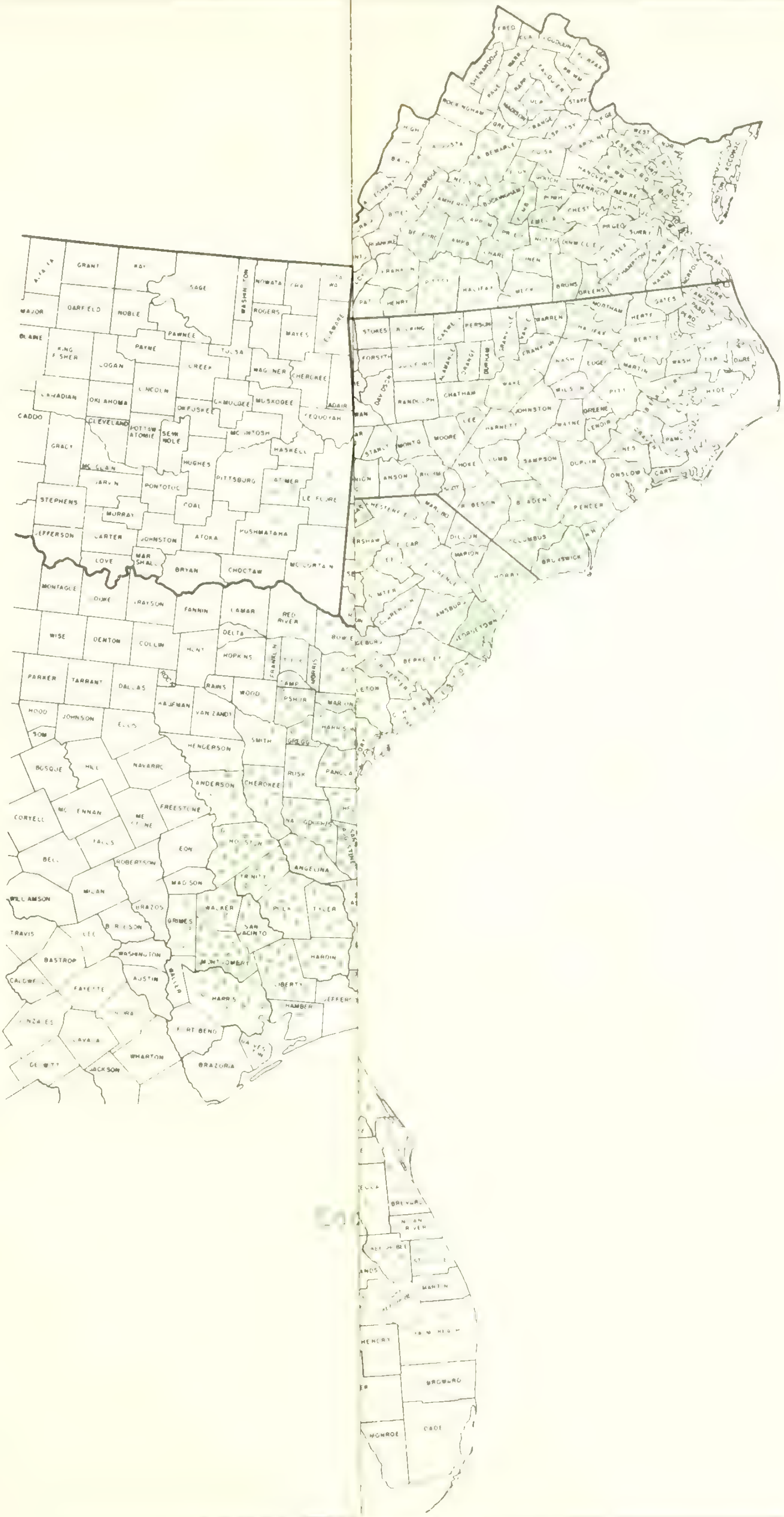
3/ No pulpwood used in 1952.

Table 17.--Pulpmills under construction in the South, 1952

| State and plant location | Name of company and map code 1/ | Pulp capacity 24 hrs. 2/ |
|---|---|---|
| | | Tons |
| GEORGIA | | |
| Rome | (68) Rome Kraft Co. | 615 |
| Valdosta | (69) National Container Corp. | 450 |
| Jesup | (70) Rayonier, Inc. | 250 |
| FLORIDA | | |
| Perry | (71) The Buckeye Cellulose Corp. | 215 |
| TENNESSEE | | |
| Calhoun | (72) Bowaters Southern Paper Corp. | 580 |
| TEXAS | | |
| Evadale | (73) East Texas Pulp and Paper Co. | 250 |

1/ Corresponds to numbers at mill locations in fig. 1.

2/ *Southern Pulp and Paper Manufacturer*, and other sources.


GRANT
KAY
SAGE
NOWATA
WASHINGTON
ROGERS
MAYES
DELAWARE
MAJOR
GARFIELD
NOBLE
PAWNEE
BLAINE
PAYNE
TULSA
KINGFISHER
LOGAN
CREEK
WAGONER
CHEROKEE
CANADIAN
OKLAHOMA
LINCOLN
OKMULGEE
MUSKOGEE
ADAIR
OKFUSKEE
SEQUOYAH
CADDO
CLEVELAND
POTTAWATOMIE
SEMINOLE
McINTOSH
HASKELL
HUGHES
PITTSBURG
PONTOTOC
LATIMER
LE FLORE
STEPHENS
MURRAY
COAL
JEFFERSON
CARTER
JOHNSTON
ATOKA
PUSHMATAHA
LOVE
MARSHALL
BRYAN
CHOCTAW
McCURTAIN
MONTAGUE
COOKE
GRAYSON
FANNIN
LAMAR
RED RIVER
WISE
DENTON
COLLIN
HUNT
DELTA
HOPKINS
FRANKLIN
MORRIS
BOWIE
PARKER
TARRANT
DALLAS
RAINS
WOOD
CAMP
HOOD
JOHNSON
ELLIS
KAUFMAN
VAN ZANDT
MARION
HARRISON
SMITH
GREGG
HENDERSON
BOSQUE
HILL
NAVARRO
ANDERSON
CHEROKEE
RUSK
PANOLA
FREESTONE
CORYELL
McLENNAN
FALLS
NACOGDOCHES
HOUSTON
BELL
ROBERTSON
LEON
ANGELINA
MADISON
TRINITY
WILLIAMSON
MILAM
BRAZOS
WALKER
POLK
TYLER
GRIMES
SAN JACINTO
TRAVIS
LEE
BURLESON
WASHINGTON
BASTROP
MONTGOMERY
HARDIN
FAYETTE
AUSTIN
WALLER
LIBERTY
HARRIS
CHAMBERS
FORT BEND
LAVACA
WHARTON
BRAZORIA
JACKSON
FRED
CLARKE
LOUDOUN
SHENANDOAH
FAUQUIER
ROCKINGHAM
STAFFORD
AUGUSTA
ALBEMARLE
LOUISA
HANOVER
NELSON
AMHERST
BUCKINGHAM
HENRICO
CHEST
AMELIA
NOTTOWAY
SUSSEX
SOUTHAMPTON
PRINCE GEORGE
SURRY
FRANKLIN
PATRICK
HENRY
BEDFORD
CAMPBELL
CHARLOTTE
HALIFAX
MECK
BRUNS
GREENS
ACCOMAC
NORTHAMPTON
STOKES
CASWELL
PERSON
WARREN
NORTHAM
HERTF
GATES
CURR
FORSYTH
GUILFORD
ALAMANCE
ORANGE
DURHAM
GRANVILLE
FRANKLIN
HALIFAX
BERTIE
NASH
EDGECOMBE
MARTIN
WASH
DARE
DAVIDSON
RANDOLPH
CHATHAM
WAKE
WILSON
PITT
HYDE
JOHNSTON
GREENE
LEE
MOORE
HARNETT
WAYNE
LENOIR
STANLY
MONTG
ANSON
RICHM
HOKE
CUMB
SAMPSON
DUPLIN
ONSLOW
JONES
PAML
CART
UNION
ROBESON
BLADEN
PENDER
COLUMBUS
BRUNSWICK
MARLBORO
DILLON
MARION
HORRY
GEORGETOWN
BERKELEY
BREVARD
INDIAN RIVER
HENDRY
HIGHLANDS
BROWARD
MONROE
DADE

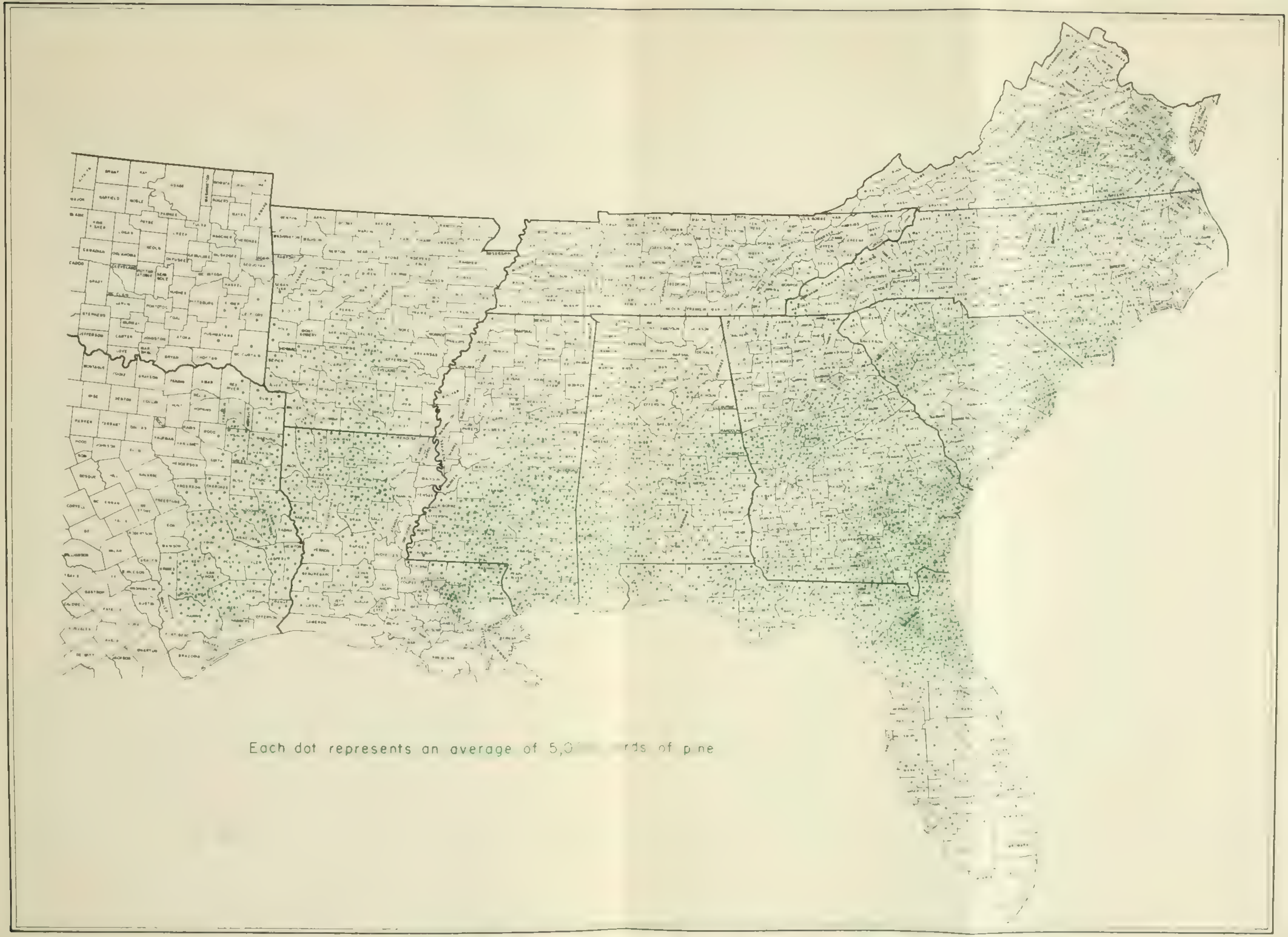
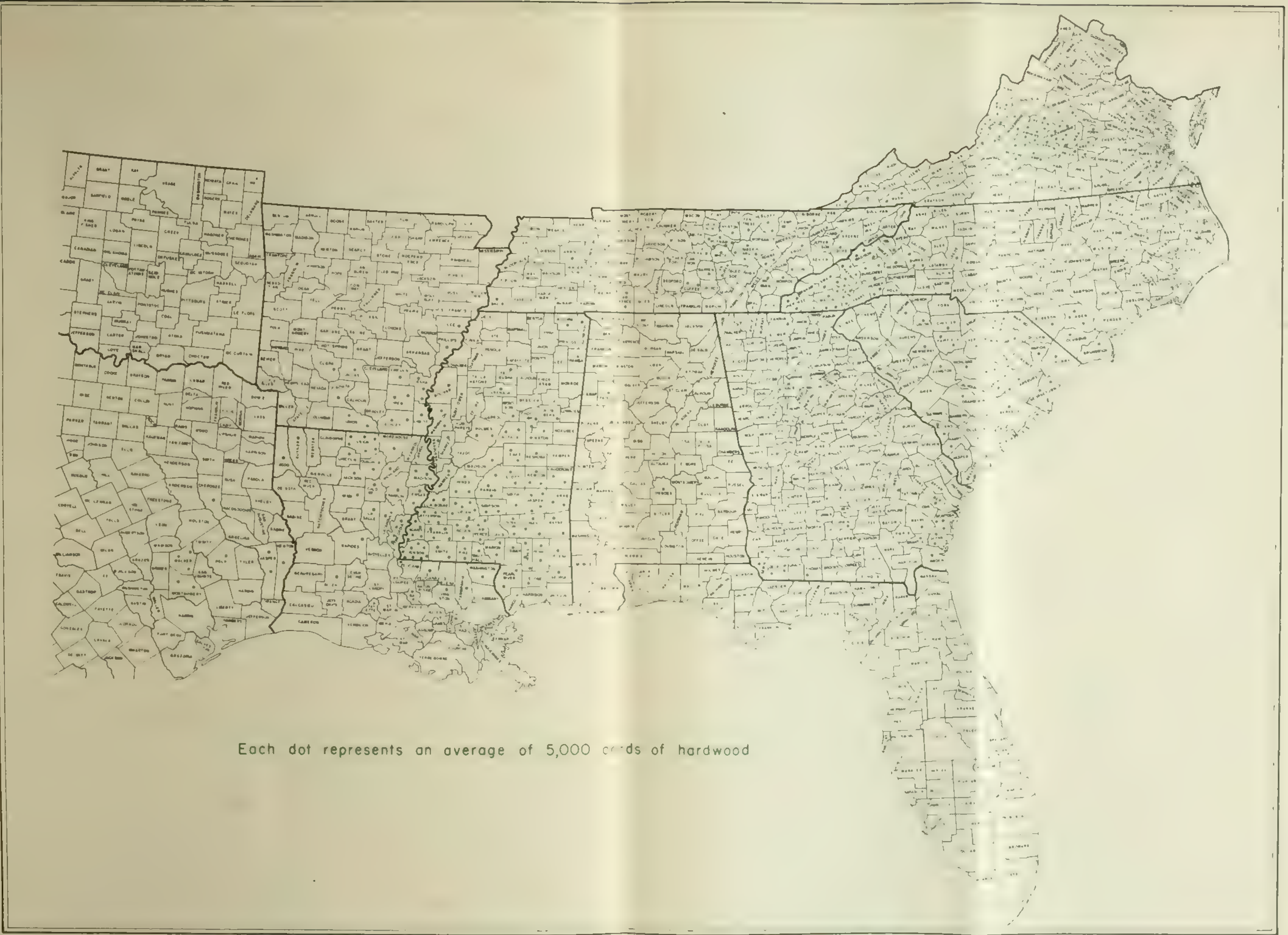


Figure 3—Pine pulpwood production by county in the South, 1952



Each dot represents an average of 5,000 cords of hardwood

Figure 4—Hardwood pulpwood production by county in the South, 1952